Table S1: Identified flow paths information at each watershed within the study area

Watershed	Flow path	Flow Type			Total Length (m)	Watershed Avg. Slope (%)	Shallow Conc. Flow as a % of the total flow
		Sheet	Shallow Concentrated	Channel			
7 de Agosto	1	(100 m; 5.19%)	(748m; 0.04%)	—	848	0.16	92%
Bazurto	1	(100 m; 39.40%)	(873 m; 19.07%)	(121 m; 2.93%)	1094	23.01	80%
	2	(100 m; 39.40%)	(435 m; 27.64%)	(354 m; 0.83%)	889	25.89	49%
	3	(100 m; 39.40%)	(620 m; 23.26%)	(270 m; 1.19%)	990	24.40	63%
	4	(100 m; 39.40%)	(434 m; 27.67%)	(400 m; 0.84%)	934	25.23	46%
	5	(100 m; 39.40%)	(436 m; 27.61%)	(400 m; 0.86%)	936	25.20	47%
	6	(100 m; 39.40%)	(1058 m; 16.94%)	(277 m; 1.61%)	1435	19.62	74%
	7	(100 m; 39.40%)	(1264 m; 15.11%)	(170 m; 1.43%)	1534	18.77	82%
Canapote	1	(100 m; 3.27%)	(2198 m; 6.68%)	(175 m; 1.75%)	2437	6.41	90%
	2	(100 m; 3.27%)	(2361 m; 6.46%)	(10 m; 10.96%)	2471	6.33	96%
Torices, Calle 37	1	(60 m; 3.39%)	(782 m; 6.01%)	(398 m; 0.61%)	1240	4.30	63%
	2	(60 m; 3.39%)	(676 m; 6.35%)	(374 m; 0.59%)	1110	4.49	61%
	3	(60 m; 3.39%)	(626 m; 6.54%)	(375 m; 1.63%)	1061	4.62	59%
Torices, Calle 42	1	(100 m; 12.28%)	(1199 m; 7.55%)	—	1299	9.04	92%
	2	(100 m; 12.28%)	(1289 m; 6.87%)	—	1389	8.44	93%
Torices, Calle 44	1	(100 m; 10.52%)	(1836 m; 10.03%)	—	1935	9.93	95%
	2	—	(901 m; 4.95%)	(164 m; 4.01%)	1065	4.79	85%
Torices, Calle 50	1	(100 m; 3.34%)	1197 m; 8.89%)	(13 m; 12.92%)	1310	7.09	91%
	2	(100 m; 3.87%)	(1213 m; 7.27%)	(14 m; 10.13%)	1327	6.37	91%
Crespito	1	—	(636 m; 4.47%)	—	636	4.47	100%
	2	—	(664 m; 2.35%)	—	664	2.35	100%
Crespo	1	—	(601 m; 0.10%)	—	601	0.10	100%
	2	—	(842 m; 0.31%)	—	842	0.31	100%
	3	—	(837 m; 0.40%)	—	837	0.40	100%
	4	—	(903 m; 0.28%)	—	903	0.28	100%
	5	—	(498 m; 0.01%)	—	498	0.01	100%
	6	—	(702 m; 0.37%)	—	702	0.37	100%
Daniel Lemaitre	1	(100 m; 4.41%)	(1560 m; 6.50%)	(410 m; 0.36%)	2070	4.78	75%
	2	(100 m; 4.41%)	(1981 m; 6.05%)	—	2081	4.76	95%
	3	(100 m; 4.41%)	(1980 m; 6.05%)	—	2080	4.76	95%
Pie del Cerro, Cra 16A	1	(100 m; 8.14%)	(417 m; 16.01%)	(573 m; 1.02%)	1090	9.73	38%
	2	(100 m; 8.14%)	(732 m; 12.50%)	(279 m; 0.21%)	1111	9.67	66%
	3	(100 m; 8.14%)	(713 m; 12.68%)	(420 m; 0.12%)	1233	9.22	58%
	4	(100 m; 7.55%)	(762 m; 11.22%)	(385 m; 1.49%)	1247	8.68	61%
	5	(100 m; 7.55%)	(117 m; 2.55%)	(239 m; 1.97%)	456	20.68	26%
Pie del Cerro, Cra 21B	1	(100 m; 13.43%)	(355 m; 36.12%)	(507 m; 0.52%)	962	21.16	37%
	2	(100 m; 13.43%)	(350 m; 36.28%)	(517 m; 0.42%)	967	21.12	36%
	3	(100 m; 14.55%)	(1101 m; 17.18%)	(27 m; 0.65%)	1228	16.99	90%
	4	(100 m; 14.55%)	(1291 m; 14.78%)	(27 m; 0.65%)	1418	15.15	91%
Manga	1	—	(978 m; 0.05%)	—	978	0.05	100%
San Francisco, Calle 77 (La Amistad)	1	(100 m; 7.21%)	(616 m; 7.55%)	—	716	8.43	86%
	2	(100 m; 7.21%)	(647 m; 7.32%)	—	747	8.25	87%
San Francisco, sector La Loma	1	(100 m; 9.10%)	(534 m; 9.88%)	—	634	9.68	84%
	2	(100 m; 9.10%)	(579 m; 9.54%)	—	679	9.43	85%

Note: Values in parentheses are the length and slope of the corresponding identified flow type.

Table S2. Watersheds' additional variables used for *Tc* estimation

Watershed	Flow Path	n_0	n	$S_{watershed}$ (m/m)	C	i_p (%)	φ	CN	P_2 (mm)		Area (ha)
									Stationary Conditions	Non-Stationary Conditions	
7 de Agosto	1	0.011	—	0.028	0.92	94.81	0.81	87	89.2	128.1	29.16
Bazurto	1 to 7	0.8	0.013	0.080	0.87	91.12	1.10	87	89.2	128.1	66.05
Canapote	1 & 2	0.011	0.014	0.2703	0.77	68.86	1.04	84	89.2	128.1	67.87
Torices, Calle 37	1 to 3	0.011	0.013	0.0768	0.88	63.42	0.80	85	89.2	128.1	39.52
Torices, Calle 42	1 & 2	0.011	—	0.1569	0.87	84.78	0.85	86	89.2	128.1	38.12
Torices, Calle 44	1	0.8	—	0.3523	0.71	52.63	1.09	82	89.2	128.1	47.76
	2	0.8	0.048	0.3523	0.71	52.63	0.93	82	89.2	128.1	47.76
Torices, Calle 50	1	0.011	0.013	0.1135	0.91	94.24	0.97	88	89.2	128.1	72.80
	2	0.011	0.013	0.1135	0.91	94.24	1.00	88	89.2	128.1	72.80
Crespito	1 & 2	0.011	—	0.0644	0.92	93.93	0.80	88	89.2	128.1	43.99
Crespo	1 to 6	0.011	—	0.0032	0.84	91.10	0.80	72	89.2	128.1	50.80
Daniel Lemaitre	1	0.8	0.013	0.0992	0.82	84.15	0.96	87	89.2	128.1	52.56
	2 & 3	0.8	—	0.0992	0.82	84.15	0.92	87	89.2	128.1	52.56
Pie del Cerro, Cra 16A	1	0.011	0.013	0.0904	0.81	78.01	1.07	84	89.2	128.1	52.85
	2 &3	0.011	0.013	0.0904	0.81	78.01	0.96	84	89.2	128.1	52.85
	4	0.011	0.013	0.0904	0.81	78.01	0.95	84	89.2	128.1	52.85
	5	0.011	0.013	0.0904	0.81	78.01	0.80	84	89.2	128.1	52.85
Pie del Cerro, Cra 21B	1 to 4	0.8	0.013	0.2345	0.83	81.51	1.20	83	89.2	128.1	56.58
Manga	1	0.011	—	0.0102	0.87	91.63	0.80	85	89.2	128.1	38.47
San Francisco, Calle 77	1 & 2	0.011	—	0.1105	0.71	29.58	1.21	81	89.2	128.1	11.18
San Francisco, La Loma	1	0.4	—	0.1272	0.77	71.34	1.04	85	89.2	128.1	9.29
	2	0.4	—	0.1272	0.77	71.34	1.08	85	89.2	128.1	9.29

$S_{watershed}$= watershed average slope used in the NRCS Lag Equation; C = runoff coefficient used in FAA equation; CN = curve number used in NRCS Lag Equation; n = roughness coefficient used in NRCS Velocity Method sheet flow equation; n_0 = roughness coefficient; n = Manning coefficient; φ = Espey channelization factor; ip = impervious area percentage used in Espey-Winslow equation.

Table S3. *Tc* minimum, maximum, average, and standard deviation with P_2 under stationary conditions

Time of Concentration Equation		*Tc* (min) – P_2 under stationary conditions							
		Each Flow				Total Length			
		Min	**Max**	**Avg**	**Std Dev**	**Min**	**Max**	**Avg**	**Std Dev**
NRCS Velocity Method	Sheet	0.6	64.4	17.2	21.5	0.6	64.4	17.2	21.5
	Shallow Concentrated	5.8	177.4	37.1	50.6	5.8	177.4	37.1	50.6
	Channel	0.0	4.1	1.1	1.5	0.0	4.1	1.1	1.5
	***Tc* total**	**8.2**	**177.4**	**51.3**	**48.5**	**8.2**	**177.4**	**51.3**	**48.5**
Miller		8.69	8.7	1043.0	266.7	375.9	7.0	797.9	191.4
FAA		11.69	11.7	107.0	36.0	24.2	11.3	107.0	27.4
Kerby	Unadjusted	8.8	109.6	39.4	32.1	6.9	93.6	30.7	26.9
	Adjusted	8.8	109.6	37.9	32.8	6.9	93.6	29.5	27.1
Espey-Winslow		417.54	417.5	1552.2	1041.2	288.2	417.5	1004.6	666.8
NRCS Lag Equation		15.72	15.7	105.1	35.6	22.3	14.3	105.1	33.5
Kirpich	Unadjusted	8.2	100.1	30.5	26.7	7.3	100.1	25.4	25.9
	Adjusted	8.2	56.1	24.0	14.3	7.3	56.1	20.1	13.7
Bransby-Williams		20.08	20.1	72.0	43.4	15.7	20.1	72.0	41.2
Johnstone-Cross		11.44	11.4	304.6	60.1	78.6	8.7	304.6	46.3
Sheridan		69.51	69.5	308.7	168.1	66.4	69.5	303.4	163.4
PMDPC		8.39	8.4	250.9	57.0	69.8	8.4	250.9	49.0
Kerby-Kirpich methodology	Unadjusted	6.9	93.6	33.2	26.4	N/A	N/A	N/A	N/A
	Adjusted	6.9	93.6	31.8	26.7	N/A	N/A	N/A	N/A
MinVivienda methodology	with Kerby	6.9	93.6	30.4	27.0	N/A	N/A	N/A	N/A
	with FAA	11.1	107.0	26.3	25.2	N/A	N/A	N/A	N/A
	with NRCS Lag Equation	14.3	105.1	32.6	22.9	N/A	N/A	N/A	N/A

Note: The terms unadjusted and adjusted refer to the slope adjustment proposed by Cleveland [65].
N/A = Not Applicable; Min = minimum; Max = maximum; Avg = average; Std Dev = Standard Deviation.

Table S4. *Tc* minimum, maximum, average, and standard deviation with P_2 under non-stationary conditions

Time of Concentration Equation		*Tc* (min) – P_2 under non-stationary conditions							
		Each Flow				Total Length			
		Min	**Max**	**Avg**	**Std Dev**	**Min**	**Max**	**Avg**	**Std Dev**
NRCS Velocity Method	Sheet	0.5	53.7	14.3	18.0	0.5	53.7	14.3	18.0
	Shallow Concentrated	5.8	177.4	37.1	50.6	5.8	177.4	37.1	50.6
	Channel	0.0	4.1	1.1	1.5	0.0	4.1	1.1	1.5
	***Tc* total**	**8.1**	**177.4**	**49.0**	**48.2**	**8.1**	**177.4**	**49.0**	**48.2**
Miller		8.69	8.7	1043.0	266.7	375.9	7.0	797.9	191.4
FAA		11.69	11.7	107.0	36.0	24.2	11.3	107.0	27.4
Kerby	Unadjusted	8.8	109.6	39.4	32.1	6.9	93.6	30.7	26.9
	Adjusted	8.8	109.6	37.9	32.8	6.9	93.6	29.5	27.1
Espey-Winslow		417.54	417.5	1552.2	1041.2	288.2	417.5	1004.6	666.8
NRCS Lag Equation		15.72	15.7	105.1	35.6	22.3	14.3	105.1	33.5
Kirpich	Unadjusted	8.2	100.1	30.5	26.7	7.3	100.1	25.4	25.9
	Adjusted	8.2	56.1	24.0	14.3	7.3	56.1	20.1	13.7
Bransby-Williams		20.08	20.1	72.0	43.4	15.7	20.1	72.0	41.2
Johnstone-Cross		11.44	11.4	304.6	60.1	78.6	8.7	304.6	46.3
Sheridan		69.51	69.5	308.7	168.1	66.4	69.5	303.4	163.4
PMDPC		8.39	8.4	250.9	57.0	69.8	8.4	250.9	49.0
Kerby-Kirpich methodology	Unadjusted	6.9	93.6	33.2	26.4	N/A	N/A	N/A	N/A
	Adjusted	6.9	93.6	31.8	26.7	N/A	N/A	N/A	N/A
MinVivienda methodology	with Kerby	6.9	93.6	30.4	27.0	N/A	N/A	N/A	N/A
	with FAA	11.1	107.0	26.3	25.2	N/A	N/A	N/A	N/A
	with NRCS Lag Equation	14.3	105.1	32.6	22.9	N/A	N/A	N/A	N/A

Note: The terms unadjusted and adjusted refer to the slope adjustment proposed by Cleveland [65].
N/A = Not Applicable; Min = minimum; Max = maximum; Avg = average; Std Dev = Standard Deviation.

Table S5. Linear trend line equations between simulated and true *Tc* values

Tc Equation	Stationary Condition				Non-Stationary Condition			
	Each Flow		Total Length		Each Flow		Total Length	
	Trendline Equation	R^2	Trendline Equation	R^2	Trendline Equation	R^2	Trendline Equation	R^2
Miller	Y = 0.90X + 220.71	0.013	Y = 0.78X + 151.4	0.019	Y = 0.37X + 248.45	0.002	Y = 0.4X + 172.02	0.005
FAA	Y = 0.40 X + 15.36	0.655	Y = 0.46X + 3.82	0.792	Y = 0.42X + 15.55	0.695	Y = 0.47X + 4.24	0.827
Kerby	Y = 0.18 X + 30.34	0.071	Y = 0.20X + 20.58	0.128	Y = 0.13X + 32.85	0.040	Y = 0.16X + 22.75	0.085
Kerby-Adjusted	Y = 0.12X + 31.87	0.031	Y = 0.14X + 22.22	0.065	Y = 0.07X + 34.35	0.012	Y = 0.11X + 24.35	0.035
Espey-Winslow	Y = –1.38 X + 1112	0.054	Y = 1.68X + 580.6	0.213	Y = –1.4X + 1108.3	0.053	Y = 1.72X + 582.3	0.222
NRCS Lag Equation	Y = 0.39 X + 15.56	0.723	Y = 0.41X + 12.67	0.750	Y = 0.40X + 15.89	0.756	Y = 0.42X + 13.04	0.783
Kirpich	Y = 0.48 X + 6.05	0.748	Y = 0.48X + 0.67	0.820	Y = 0.49X + 6.20	0.799	Y = 0.5X + 0.99	0.864
Kirpich-Adjusted	Y = 0.21X + 13.2	0.507	Y = 0.23X + 8.09	0.691	Y = 0.22X + 13.21	0.547	Y = 0.24X + 8.25	0.726
Bransby-Winslow	Y = 0.21X + 32.64	0.419	Y = 0.22X + 30.10	0.452	Y = 0.21X + 32.97	0.427	Y = 0.22X + 30.55	0.450
Johnstone-Cross	Y = 1.38 X – 10.94	0.730	Y = 1.39X - 25.08	0.759	Y = 1.44X – 10.52	0.781	Y = 1.44X – 24.27	0.802
Sheridan	Y = –0.31 X + 183.9	0.051	Y = –0.27X + 177.2	0.041	Y = –0.36X + 185.7	0.068	Y = –0.32X + 179	0.056
PMDPC	Y = 1.27 X – 8.34	0.785	Y = 1.24X – 14.45	0.804	Y = 1.32X – 7.85	0.836	Y = 1.28X – 13.64	0.847
Kerby-Kirpick Unadjusted	Y = 0.14 X + 25.79	0.070			Y = 0.11X + 27.8	0.040		
Kerby-Kirpich Adjusted	Y = 0.09 X + 27.0	0.029			Y = 0.058X + 28.98	0.011		
MinVivienda-Kerby	Y = 0.19X + 20.83	0.112			Y = 0.15X + 22.99	0.073		
MinVivienda-FAA	Y = 0.44X + 3.79	0.715			Y = 0.45X + 4.22	0.745		
MinVivienda-NRCS	Y = 0.42X + 11.17	0.783			Y = 0.43X + 11.59	0.815		

Table S6. Comparison between NRCS Velocity Method and *Tc* Average

Watershed	Time of Concentration, *Tc* (min) NRCS Velocity Method						*Tc* Average (min)		NRCS/*Tc* Avg for E.F. (%)		NRCS/*Tc* Avg for T.F. (%)	
	Sheet Flow		Shallow Concentrated Flow	Channel Flow	Total		E.F.	T.F.				
	P_2 SC	P_2 NSC			SC	NSC			SC	NSC	SC	NSC
7 de Agosto	0.8	0.7	103.7	–	104.5	104.4	76.0	51.1	138	137	205	204
Bazurto	26.8	22.4	10.1	0.7	37.6	33.1	25.2	23.6	149	131	159	140
Canapote	1.0	0.8	28.3	0.0	29.3	29.1	27.2	23.2	108	107	126	125
Torices, Cll 37	0.7	0.5	8.6	1.7	11.0	10.9	31.5	19.9	35	34	55	55
Torices, Cll 42	0.6	0.5	14.4	–	14.9	14.8	16.7	14.1	89	89	106	106
Torices, Cll 44	45.5	37.9	18.0	–	63.4	55.9	26.7	20.5	237	209	310	273
Torices, Cll 50	0.9	0.8	13.4	0.0	14.3	14.2	17.7	17.2	81	80	83	82
Crespito	–	–	11.9	–	11.9	11.9	14.6	14.6	81	81	81	81
Crespo	–	–	177.4	–	177.4	177.4	70.5	70.5	252	252	252	252
Daniel Lemaitre	64.4	53.7	23.1	–	87.4	76.8	33.7	28.5	260	228	306	269
Pie del Cerro, Cra 16A	0.7	0.6	5.8	4.1	10.7	10.5	43.2	16.5	25	24	65	64
Pie del Cerro, Cra 21B	39.9	33.3	9.4	0.2	49.5	42.9	20.7	16.8	239	207	296	256
Manga	–	–	119.1	–	119.1	119.1	85.5	85.4	139	139	139	139
San Francisco, Cll 77	0.7	0.6	7.5	–	8.2	8.1	15.1	12.6	55	54	65	64
San Francisco, La Loma	24.1	20.1	5.8	–	29.9	25.9	13.6	12.1	220	190	247	214

Note: gray cells indicate watersheds where *Tc* Avg values was less than *Tc* using NRCS Velocity Method. SC = Stationary Conditions; NSC = Non-Stationary Conditions; E.F. = Each Flow; T.F. = Total Flow

Table S7. Sheet flow equations

Flow Type	Method	Equation	Remarks
Sheet Flow	Miller [64]	$T_c = \frac{107}{60}\left[\frac{n_0 {L_0}^{0.333}}{(100S_0)^{0.2}}\right]$ T_c, Time of concentration (h). L_0, Flow path length (m). n_0, Roughness coefficient S_0, Flow path average slope (m/m).	• This method estimates the time of concentration based on a nomogram for laminar surface flow published by the Institution of Engineers, Australia [87].
	FAA [66]	$T_c = \frac{0.3788(1.1 - C){L_0}^{0.5}}{{S_0}^{0.332}}$ T_c, Time of concentration (h). L_0, Flow path length (m). C, Runoff coefficient S_0, Flow path average slope (m/m).	• Typically used for small urban watersheds. • This method was derived from data from airfield drainage data.

Adapted from: Sharifi & Hosseini [6] , Gericke & Smithers [8,29], USDA-NRCS [11] , Chow et al. [75], Beven [88].

Table S8. Shallow concentrated flow equations

Flow Type	Method	Equation	Description of variables	Remarks
Shallow Concentrated Flow	Espey-Winslow [67]	$T_c = \frac{44.1}{60}\left(\frac{\phi {L_{0,CH}}^{0.29}}{{S_{0,CH}}^{0.145} {i_p}^{0.6}}\right)$	T_c, Time of concentration (h). $L_{0,CH}$, Flow path length (m). i_p, Impervious area (%) $S_{0,CH}$, Flow path average slope (m/m). φ, Espey channelization factor.	• This method was derived from data obtained from 17 watersheds in Houston (USA) [67,74,89]. The watersheds had the following characteristics: • Drainage areas between 2.6 y 90.7 km² • Predominance of rural areas. In the analysis, the impermeability (i_p) and transport (φ) factors were included. The values of (φ) vary between 0.8 (concrete channels) to 1.3 (natural channels) [90].
	Kerby [68]	$T_c = \frac{1.4394}{60}\left(\frac{n_0 L_0}{\sqrt{S_0}}\right)^{0.467}$	T_c, Time of concentration (h). L_0, Flow path length (m). S_0, Flow path average slope (m/m). n_0, Roughness coefficient	This equation was developed in watersheds from the United States with the following characteristics: • Areas less than 4 ha. • Average slopes less than 1%. • Manning between 0.02 and 0.08.
	NRCS Lag Equation [11]	$T_c = \frac{1}{60}\frac{{L_0}^{0.8}\left(\frac{25400}{CN} - 228.6\right)^{0.7}}{706.9{S_{watershed}}^{0.5}}$	T_c, Time of concentration (h). L_0, Flow path length (m). $S_{watershed}$, Watershed average slope (m/m). CN, Curve Number.	• This method is used in mixed, sheet or shallow concentrated flow, in the upper reaches of the watersheds. • This equation was developed from watersheds with homogeneous agricultural areas with sizes from 8 to 16 km².

Adapted from: Sharifi & Hosseini [6] , Gericke & Smithers [8,29], USDA-NRCS [11] , Chow et al. [75], Beven [88].

Table S9. Channel flow equations

Flow Type	Method	Equation	Description of variables	Remarks
Channel flow	Kirpich [69]	$T_c = 0.0663\left(\frac{{L_{CH}}^2}{S_{CH}}\right)^{0.385}$	T_c, Time of concentration (h). L_{CH}, Main channel length (km). S_{CH}, Main channel average slope (m/m).	This method was derived by Kirpich [69] for estimate Tc in watersheds from Pennsylvania and Tennessee (USA) with the following characteristics: • Areas between 0.4 y 45.3 ha (overestimating in basins with areas less than 8 km² and obtaining the best bias between 8 and 16 km² [1] • Average slopes between 3% y 10%. Note: when this equation is used in watersheds where the flow paths are coated in concrete, the estimated Tc should be multiplied by 0.4 (surface flow) and 0.2 (channel flow).
	Bransby-Williams [70]	$T_c = 0.2426\left(\frac{L_{CH}}{A^{0.1}{S_{CH}}^{0.2}}\right)$	T_c, Time of concentration (h). L_{CH}, Main channel length (km). S_{CH}, Main channel average slope (m/m). A, Watershed area (km²).	• This method is limited to rural watersheds with areas less than 130 km² [74,91]. • The Australian Department of Natural Resources and Water [92] highlighted that the initial travel time by land flow is already incorporated in this equation.
	Johnstone-Cross [71]	$T_c = 0.0543\left(\frac{L_{CH}}{S_{CH}}\right)^{0.5}$	T_c, Time of concentration (h). L_{CH}, Main channel length (km). S_{CH}, Main channel average slope (m/m).	• This method was developed estimating of the Tc in watersheds of Scioto and Sandusky rivers (watersheds in Ohio) with areas between 65 and 4,206 km².
	Sheridan [72]	$T_c = 2.2{L_{CH}}^{0.92}$	T_c, Time of concentration (h). L_{CH}, Main channel length (km).	• Sheridan [72] studied nine watersheds in Georgia and Florida (USA) with areas between 2.6 y 334.4 km². • In this study, Sheridan developed a multiple regression analysis using geomorphological parameters to estimate the T_C. • The main length of the flow path/channel was the geomorphological parameters with the best correlation with the T_C.
	Equation proposed by Plan Maestro de Drenajes Pluviales de Cartagena (PMDPC) [93]	$T_c = \frac{0.017L_c}{V_c} = \frac{0.017L_c}{K\sqrt{S}}$ $T_c = \frac{0.017L_c}{(4.47)\sqrt{S}}$	T_c, Time of concentration (h). L_C, Main channel length (m). S, Main channel average slope (m/m). K = 4,47 m/s, regional coefficient proposed for Cartagena. V_C, Flow velocity (m/s).	• It consists of the shallow concentrated equation (of the NRCS Velocity Method) used for channel flow. A K value of 4.47 is proposed. However, there is no explanation as to how this value was obtained. So, it will be considered as an ad hoc value.

Adapted from: Sharifi & Hosseini [6], Gericke & Smithers [8,29], USDA-NRCS [11] ,AMCI [73], Chow et al. [75], Beven [88].

Table S10. Additional *Tc* estimation methodologies

Method	Equation	Description of variables	Remarks
Kerby-Kirpich [14]	$T_c = \frac{1.4394}{60}\left(\frac{nL_0}{\sqrt{S_0+S_{LB}}}\right)^{0.467} + 0.0663\left(\frac{{L_{CH}}^2}{S_{CH}+S_{LB}}\right)^{0.385}$	T_c, Time of concentration (h). L_0, Flow path length (m). S_0, Flow path average slope (m/m). n, Manning's roughness coefficient. L_{CH}, Main channel length (km). S_{CH}, Main channel average slope (m/m). S_{LB}, Slope offset adjustment of 0.0005 for flow path slopes less than or equal to 0.003 (m/m)	• This method estimates the *Tc* as the sum of the overland flow time (*Tov*) by means of Kerby equation and the channel flow time (*Tch*) by means of Kirpich equation. $Tc = T_{OV} + T_{CH}$. • It can be applied to watersheds with areas between 0.65 km² to 388.5 km²; main channel lengths ranging 1.6 km to 80 km; and channel ranging 0.002 and 0.02 (m/m). • In cases where the flow path slope is less than or equal to 0.003 (m/m), Cleveland [65] proposes an adjustment methodology for both Kerby and Kirpich equations, which consists of adding a slope offset (S_{LB}) of 0.0005. If slope is greater than 0.003 (m/m), then S_{LB} is zero.
MinVivienda [42]	$T_c = T_{OV} + T_{CH}$ $T_{CH} = \frac{L_{CH}}{3600V_{CH}}$	T_c, Time of concentration (h) L_{CH}, Flow path length (m) V_{CH}, Flow path velocity (m/s) Manning equation	• This method estimates the *Tc* as the sum of the overland flow time (*Tov*) and the channel flow time (*Tch*). $Tc = T_{OV} + T_{CH}$. • To estimate *Tov*, the method proposes the use of any of the following *Tc* equations: FAA, Shallow Concentrated Flow (of the NRCS velocity method), or Kerby. • To estimate T_{CH}, the method proposes to calculate first the velocity by means of any method used for open channel design, such as the Manning equation (used in this study).

Adapted form: Sharifi & Hosseini [6], Gericke & Smithers [8,29], USDA-NRCS [11] ,AMCI [73], Chow et al. [75], Beven [88].

Table S11. Estimated *Tc* (min) values for each flow for P_2 under stationary conditions

Watershed	NRCS Velocity Method				Miller	FAA	Kerby		E-W	NRCS Lag Eq	Kirpich		B-W	J-C	Sher	PMDPC	Kerby-Kirpich		MinVivienda		
	SH	SC	CH	Total			No Slope Adjusted	Slope Adjusted			No Slope Adjusted	Slope Adjusted					No Slope Adjusted	Slope Adjusted	with Kerby	with FAA	with NRCS
7 de Agosto	1	104	-	105	23	52	27	23	1003	37	68	50	63	149	117	148	12	12	12	17	34
Bazurto	27	10	1	38	76	22	76	76	1172	37	16	16	36	22	206	18	60	60	56	11	30
Canapote	1	28	0	29	17	38	17	17	1341	30	25	25	65	26	309	38	13	13	13	29	29
Torices, Cll 37	1	9	2	11	20	32	20	20	1281	35	25	25	41	42	172	33	22	22	10	14	24
Torices, Cll 42	1	14	-	15	12	18	12	12	794	24	15	15	38	17	183	20	9	9	9	14	22
Torices, Cll 44	46	18	-	63	93	32	93	93	1248	23	17	17	48	17	247	23	76	76	76	27	22
Torices, Cll 50	1	13	0	14	13	17	13	13	944	25	15	15	34	20	176	19	10	10	10	12	23
Crespito	-	12	-	12	9	12	9	9	418	18	13	13	23	18	92	17	9	9	9	12	18
Crespo	-	177	-	177	18	107	31	18	932	105	100	42	55	305	70	251	31	18	31	107	105
Daniel Lemaitre	64	23	-	87	110	28	110	110	884	39	22	22	57	24	263	32	94	94	94	25	37
Pie del Cerro Cra 16A	1	6	4	11	23	56	24	23	1463	34	36	32	44	72	172	55	34	30	11	17	25
Pie del Cerro Cra 21B	40	9	0	50	78	22	78	78	925	22	13	13	33	19	188	15	61	61	59	14	20
Manga	-	119	-	119	22	65	26	22	827	68	74	56	72	146	129	168	26	22	26	65	68
San Francisco Cll 77	1	8	-	8	9	24	9	9	1552	21	10	10	23	14	104	11	7	7	7	18	19
San Francisco La Loma	24	6	-	30	46	18	46	46	833	16	8	8	20	11	96	8	34	34	34	14	14

SH = Sheet flow; SC = Shallow concentrated flow; CH = Channel flow; FAA = Federal Aviation Administration; E-W = Espey-Winslow;

B-W = Bransby-Williams; J-C = Johnstone-Cross; Sher = Sheridan; PMDPC = Plan Maestro de Drenajes Pluviales de Cartagena (Table S9)

Table S12. Estimated *Tc* (min) values for total length flow for P_2 under stationary conditions

Watershed	NRCS Velocity Method				Miller	FAA	Kerby		E-W	NRCS Lag Equation	Kirpich		B-W	J-C	Sheridan	PMDPC
	SH	SC	CH	Total			No Slope Adjusted	Slope Adjusted			No Slope Adjusted	Slope Adjusted				
7 de Agosto	1	104	-	105	16	32	18	17	662	34	42	37	50	74	113	80
Bazurto	27	10	1	38	488	11	56	56	545	32	11	11	33	9	196	14
Canapote	1	28	0	29	11	30	13	13	836	29	23	23	65	20	303	37
Torices, Calle 37	1	9	2	11	10	16	10	10	577	30	16	16	37	18	161	23
Torices, Calle 42	1	14	-	15	9	14	9	9	548	22	13	13	37	13	179	18
Torices, Calle 44	46	18	-	63	672	27	76	76	889	22	16	16	48	14	242	23
Torices, Calle 50	1	13	0	14	9	12	10	10	551	23	14	14	35	15	171	20
Crespito	-	12	-	12	9	12	9	9	418	18	13	13	23	18	92	17
Crespo	-	177	-	177	26	107	31	18	932	105	100	42	55	305	70	251
Daniel Lemaitre	64	23	-	87	798	25	94	94	645	37	23	23	59	22	259	36
Pie del Cerro Cra 16A	1	6	4	11	9	16	9	9	547	28	12	12	31	12	160	15
Pie del Cerro Cra 21B	40	9	0	50	547	14	59	59	476	20	11	11	32	10	182	14
Manga	-	119	-	119	21	65	26	22	827	68	74	56	72	146	129	168
San Francisco Calle 77	1	8	-	8	7	18	7	7	1005	19	8	8	22	10	101	10
San Francisco La Loma	24	6	-	30	240	14	34	34	545	14	7	7	20	9	92	8

SH = Sheet flow; SC = Shallow concentrated flow; CH = Channel flow; FAA = Federal Aviation Administration; E-W = Espey-Winslow;

B-W = Bransby-Williams; J-C = Johnstone-Cross; PMDPC = Plan Maestro de Drenajes Pluviales de Cartagena (Table S9)

Table S13. Estimated *Tc* (min) values for each flow for P_2 under non-stationary conditions

Watershed	NRCS Velocity Method				Miller	FAA	Kerby		E-W	NRCS Lag Eq	Kirpich		B-W	J-C	Sheridan	PMDPC	Kerby-Kirpich		MinVivienda		
	SH	SC	CH	Total			No Slope Adjusted	Slope Adjusted			No Slope Adjusted	Slope Adjusted					No Slope Adjusted	Slope Adjusted	with Kerby	with FAA	with NRCS
7 de Agosto	1	104	-	104	24	52	27	23	1003	37	68	50	63	149	117	148	12	12	12	17	34
Bazurto	22	10	1	33	734	22	76	76	1172	37	16	16	36	22	206	18	60	60	56	11	30
Canapote	1	28	0	29	17	38	17	17	1341	30	25	25	65	26	309	38	13	13	13	29	29
Torices, Calle 37	1	9	2	11	22	32	20	20	1281	35	25	25	41	42	172	33	22	22	10	14	24
Torices, Calle 42	1	14	-	15	12	18	12	12	794	24	15	15	38	17	183	20	9	9	9	14	22
Torices, Calle 44	38	18	-	56	907	32	93	93	1248	23	17	17	48	17	247	23	76	76	76	27	22
Torices, Calle 50	1	13	0	14	15	17	13	13	944	25	15	15	34	20	176	19	10	10	10	12	23
Crespito	-	12	-	12	9	12	9	9	418	18	13	13	23	18	92	17	9	9	9	12	18
Crespo	-	177	-	177	26	107	31	18	932	105	100	42	55	305	70	251	31	18	31	107	105
Daniel Lemaitre	54	23	-	77	1043	28	110	110	884	39	22	22	57	24	263	32	94	94	94	25	37
Pie del Cerro Cra 16A	1	6	4	11	26	56	24	23	1463	34	36	32	44	72	172	55	34	30	11	17	25
Pie del Cerro Cra 21B	33	9	0	43	779	22	78	78	925	22	13	13	33	19	188	15	61	61	59	14	20
Manga	-	119	-	119	21	65	26	22	827	68	74	56	72	146	129	168	26	22	26	65	68
San Francisco Calle 77	1	8	-	8	11	24	9	9	1552	21	10	10	23	14	104	11	7	7	7	18	19
San Francisco La Loma	20	6	-	26	354	18	46	46	833	16	8	8	20	11	96	8	34	34	34	14	14

SH = Sheet flow; SC = Shallow concentrated flow; CH = Channel flow; FAA = Federal Aviation Administration; E-W = Espey-Winslow;

B-W = Bransby-Williams; J-C = Johnstone-Cross; PMDPC = Plan Maestro de Drenajes Pluviales de Cartagena (Table S9)

Table S14. Estimated *Tc* (min) values for total length flow for P_2 under stationary conditions

Watershed	NRCS Velocity Method				Miller	FAA	Kerby		E-W	NRCS Lag Equation	Kirpich		B-W	J-C	Sheridan	PMDPC
							No Slope Adjusted	Slope Adjusted			No Slope Adjusted	Slope Adjusted				
	SH	SC	CH	Total												
7 de Agosto	1	104	-	104	16	32	18	17	662	34	42	37	50	74	113	80
Bazurto	22	10	1	33	488	11	56	56	545	32	11	11	33	9	196	14
Canapote	1	28	0	29	11	30	13	13	836	29	23	23	65	20	303	37
Torices, Calle 37	1	9	2	11	10	16	10	10	577	30	16	16	37	18	161	23
Torices, Calle 42	1	14	-	15	9	14	9	9	548	22	13	13	37	13	179	18
Torices, Calle 44	38	18	-	56	672	27	76	76	889	22	16	16	48	14	242	23
Torices, Calle 50	1	13	0	14	9	12	10	10	551	23	14	14	35	15	171	20
Crespito	-	12	-	12	9	12	9	9	418	18	13	13	23	18	92	17
Crespo	-	177	-	177	26	107	31	18	932	105	100	42	55	305	70	251
Daniel Lemaitre	54	23	-	77	798	25	94	94	645	37	23	23	59	22	259	36
Pie del Cerro Cra 16A	1	6	4	11	9	16	9	9	547	28	12	12	31	12	160	15
Pie del Cerro Cra 21B	33	9	0	43	547	14	59	59	476	20	11	11	32	10	182	14
Manga	-	119	-	119	21	65	26	22	827	68	74	56	72	146	129	168
San Francisco Calle 77	1	8	-	8	7	18	7	7	1005	19	8	8	22	10	101	10
San Francisco La Loma	20	6	-	26	240	14	34	34	545	14	7	7	20	9	92	8

SH = Sheet flow; SC = Shallow concentrated flow; CH = Channel flow; FAA = Federal Aviation Administration; E-W = Espey-Winslow; B-W = Bransby-Williams; J-C = Johnstone-Cross; PMDPC = Plan Maestro de Drenajes Pluviales de Cartagena (Table S9)

Table S15. Results of statistical variables with P_2 under stationary conditions

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
Miller	*NSE*	E.F.	-1.3	-2578.6	0.7	0.9	1.0	-4821.7	1.0	1.0	-0.4	-697.4	0.9	-173673.0	-1.1	1.0	-228.3	6	1
		T.L.	-1.8	-1078.9	0.3	1.0	1.0	-2511.7	1.0	1.0	-0.4	-385.1	1.0	-80567.3	-1.1	1.0	-94.9	6	0
	RSR	E.F.	1.5	50.8	0.6	0.3	0.1	69.5	0.0	0.1	1.2	26.4	0.4	416.7	1.4	0.1	15.1	6	1
		T.L.	1.7	32.9	0.8	0.0	0.2	50.1	0.2	0.1	1.2	19.7	0.1	283.9	1.4	0.0	9.8	6	0
	PBIAS	E.F.	76.6	-1853.4	41.8	-104.4	19.7	-1330.1	-2.5	26.7	85.3	-1092.9	-141.4	-1473.6	82.1	-27.5	-1086.4	1	0
		T.L.	84.7	-1199.2	62.5	9.2	42.8	-960.1	37.7	26.7	85.3	-812.5	19.6	-1003.7	82.1	15.2	-702.6	1	0
FAA	*NSE*	E.F.	0.0	-0.3	0.9	0.7	1.0	-5.8	1.0	1.0	0.7	-1.7	-0.2	-242.4	0.4	0.9	0.7	5	3
		T.L.	-0.9	-2.7	1.0	1.0	1.0	-8.2	1.0	1.0	0.7	-2.0	1.0	-418.1	0.4	1.0	0.4	7	1
	RSR	E.F.	1.0	1.1	0.4	0.5	0.1	2.6	0.1	0.0	0.6	1.6	1.1	15.6	0.8	0.4	0.6	5	3
		T.L.	1.4	1.9	0.0	0.1	0.0	3.0	0.1	0.0	0.6	1.7	0.1	20.5	0.8	0.2	0.8	7	1
	PBIAS	E.F.	50.5	41.2	-28.2	-192.9	-18.8	50.0	-14.9	1.5	39.7	67.5	-420.4	55.2	45.4	-187.8	40.7	1	1
		T.L.	69.6	70.0	-0.6	-44.2	6.3	58.1	13.4	1.5	39.7	71.2	-51.4	72.4	45.4	-113.0	54.7	3	1
Kerby	*NSE*	E.F.	-1.1	-6.9	0.7	1.0	1.0	-4.9	1.0	1.0	-0.3	0.6	0.9	-260.2	-0.9	1.0	0.5	6	1
		T.L.	-1.6	-0.8	0.4	1.0	1.0	-0.1	1.0	1.0	-0.3	1.0	1.0	-29.5	-0.9	1.0	1.0	8	0
	RSR	E.F.	1.5	2.8	0.6	0.2	0.1	2.4	0.0	0.1	1.2	0.6	0.3	16.2	1.4	0.0	0.7	6	1
		T.L.	1.6	1.3	0.8	0.0	0.2	1.1	0.1	0.1	1.2	0.2	0.1	5.5	1.4	0.0	0.2	8	0
	PBIAS	E.F.	74.0	-102.6	42.7	-85.8	21.5	-46.7	7.8	25.6	82.4	-25.3	-125.5	-57.2	78.3	-14.3	-53.3	1	1
		T.L.	82.5	-48.6	56.2	4.9	38.7	-20.2	33.1	25.6	82.4	-7.1	18.2	-19.5	78.3	16.3	-14.6	2	1
Kerby - Slope adjusted	*NSE*	E.F.	-1.4	-6.9	0.7	1.0	1.0	-4.9	1.0	1.0	-0.6	0.6	0.9	-260.2	-1.1	1.0	0.5	6	1
		T.L.	-1.7	-0.8	0.4	1.0	1.0	-0.1	1.0	1.0	-0.6	1.0	1.0	-29.5	-1.1	1.0	1.0	8	0
	RSR	E.F.	1.5	2.8	0.6	0.2	0.1	2.4	0.0	0.1	1.3	0.6	0.3	16.2	1.4	0.0	0.7	6	1
		T.L.	1.6	1.3	0.8	0.0	0.2	1.1	0.1	0.1	1.3	0.2	0.1	5.5	1.4	0.0	0.2	8	0
	PBIAS	E.F.	78.1	-102.6	42.7	-85.8	21.5	-46.7	7.8	25.6	89.7	-25.3	-114.4	-57.2	81.6	-14.3	-53.3	1	1
		T.L.	83.6	-48.6	56.2	4.9	38.7	-20.2	33.1	25.6	89.7	-7.1	18.2	-19.5	81.6	16.3	-14.6	2	1
Espey-Winslow	*NSE*	E.F.	-284.1	-6850.5	-3560.4	-991.5	-458.6	-9504.9	-631.6	-104.9	-34.8	-484.7	-1277.5	-250110.7	-108.1	-1285.7	-1405.4	0	0
		T.L.	-108.6	-1370.7	-1344.6	-196.5	-213.9	-4620.5	-209.8	-104.9	-34.8	-236.6	-173.1	-59349.5	-108.0	-534.8	-576.4	0	0

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
	RSR	E.F.	16.9	82.8	59.7	31.5	21.4	97.5	25.2	10.3	6.0	22.0	35.8	500.1	10.4	35.9	37.5	0	0
		T.L.	10.5	37.0	36.7	14.1	14.7	68.0	14.5	10.3	6.0	15.4	13.2	243.6	10.4	23.2	24.0	0	0
	PBIAS	E.F.	-860.0	-3020.5	-4476.9	-11564.4	-5213.3	-1867.4	-6481.8	-3420.8	-425.3	-911.4	-13617.7	-1768.4	-594.7	-18748.5	-2690.6	0	0
		T.L.	-533.2	-1351.5	-2751.8	-5158.8	-3564.7	-1302.1	-3741.9	-3420.8	-425.3	-637.5	-5024.7	-861.5	-594.6	-12099.1	-1724.1	0	0
NRCS-Lag Equation	*NSE*	E.F.	-0.6	1.0	1.0	0.6	0.9	-10.0	0.9	1.0	0.7	-0.8	0.7	-242.5	0.4	0.9	0.6	6	2
		T.L.	-0.8	0.9	1.0	0.8	1.0	-10.6	0.9	1.0	0.7	-1.0	0.8	-276.1	0.4	0.9	0.5	8	1
	RSR	E.F.	1.3	0.1	0.0	0.6	0.2	3.3	0.3	0.2	0.6	1.3	0.6	15.6	0.8	0.3	0.7	6	2
		T.L.	1.3	0.4	0.0	0.5	0.2	3.4	0.2	0.2	0.6	1.4	0.4	16.7	0.8	0.3	0.7	8	1
	PBIAS	E.F.	64.7	2.1	-2.9	-221.9	-57.2	63.5	-75.7	-51.5	40.8	55.6	-219.7	55.2	43.1	-151.5	47.4	2	0
		T.L.	67.5	14.2	2.3	-172.1	-47.8	65.3	-62.2	-51.5	40.8	57.7	-166.0	58.9	43.1	-130.4	52.0	1	1
Kirpich	*NSE*	E.F.	0.5	-1.5	1.0	0.9	1.0	-13.6	1.0	1.0	0.6	-2.3	0.6	-428.2	0.6	1.0	0.0	6	0
		T.L.	-0.4	-2.9	0.9	1.0	1.0	-14.2	1.0	1.0	0.6	-2.2	1.0	-488.9	0.6	1.0	-0.1	7	0
	RSR	E.F.	0.7	1.6	0.2	0.4	0.0	3.8	0.0	0.0	0.6	1.8	0.6	20.7	0.7	0.0	1.0	6	0
		T.L.	1.2	2.0	0.3	0.1	0.1	3.9	0.0	0.0	0.6	1.8	0.0	22.1	0.7	0.0	1.1	7	0
	PBIAS	E.F.	34.9	57.3	14.9	-130.8	-0.9	73.2	-7.3	-5.1	43.6	74.8	-233.7	73.3	38.2	-17.1	72.7	3	1
		T.L.	60.3	72.0	21.1	-43.6	11.2	74.6	0.4	-5.1	43.6	74.2	-9.7	78.3	38.2	-0.9	75.5	4	1
Kirpich - Slope adjusted	*NSE*	E.F.	-0.1	-1.5	1.0	0.9	1.0	-13.6	1.0	1.0	-0.2	-2.3	0.7	-428.0	0.1	1.0	0.0	6	1
		T.L.	-0.6	-2.9	0.9	1.0	1.0	-14.2	1.0	1.0	-0.2	-2.2	1.0	-489.0	0.1	1.0	-0.1	7	0
	RSR	E.F.	1.0	1.6	0.2	0.4	0.0	3.8	0.0	0.0	1.1	1.8	0.5	20.7	0.9	0.0	1.0	6	1
		T.L.	1.3	2.0	0.3	0.1	0.1	3.9	0.0	0.0	1.1	1.8	0.0	22.1	0.9	0.0	1.1	7	0
	PBIAS	E.F.	52.3	57.3	14.9	-130.8	-0.9	73.2	-7.3	-5.1	76.5	74.8	-202.3	73.3	52.9	-17.1	72.7	3	1
		T.L.	64.2	72.0	21.1	-43.6	11.2	74.6	0.4	-5.1	76.5	74.2	-9.7	78.3	52.9	-0.9	75.5	4	1
Bransby-Williams	*NSE*	E.F.	0.4	1.0	-1.6	0.4	0.6	-0.6	0.7	0.9	0.1	0.3	0.3	-92.8	0.5	0.9	0.8	4	1
		T.L.	0.0	0.9	-1.6	0.6	0.7	-0.6	0.7	0.9	0.1	0.4	0.8	-100.7	0.5	0.9	0.8	5	1
	RSR	E.F.	0.8	0.1	1.6	0.8	0.6	1.3	0.5	0.3	1.0	0.9	0.8	9.7	0.7	0.3	0.5	4	1
		T.L.	1.0	0.4	1.6	0.7	0.6	1.3	0.6	0.3	1.0	0.8	0.5	10.1	0.7	0.3	0.5	5	2
	PBIAS	E.F.	40.3	4.6	-121.9	-277.4	-152.6	24.3	-137.2	-90.5	69.1	35.1	-314.7	34.3	39.6	-177.4	32.7	1	0
		T.L.	51.8	13.4	-121.6	-238.5	-144.3	24.1	-141.3	-90.5	69.1	32.1	-188.9	35.7	39.6	-170.8	32.7	0	1

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
Johnstone-Cross	*NSE*	E.F.	0.3	-0.2	1.0	0.4	1.0	-13.5	1.0	1.0	0.0	-2.1	-1.3	-303.4	0.8	1.0	0.3	6	0
		T.L.	0.7	-3.3	0.8	1.0	1.0	-15.3	1.0	1.0	0.0	-2.3	1.0	-509.2	0.9	1.0	0.0	8	1
	RSR	E.F.	0.8	1.1	0.1	0.8	0.1	3.8	0.2	0.1	1.0	1.8	1.5	17.5	0.4	0.1	0.9	6	0
		T.L.	0.6	2.1	0.4	0.2	0.1	4.0	0.0	0.1	1.0	1.8	0.0	22.6	0.4	0.0	1.0	8	1
	PBIAS	E.F.	-42.5	40.7	10.0	-286.3	-14.1	73.0	-37.8	-47.4	-71.6	73.1	-573.8	61.7	-22.5	-64.2	61.7	1	1
		T.L.	28.9	75.2	30.5	-59.4	11.6	77.3	-3.8	-47.4	-71.6	75.4	-11.7	79.9	-22.4	-19.1	70.7	1	2
Sheridan	*NSE*	E.F.	1.0	-149.0	-160.6	-14.9	-20.3	-226.6	-18.2	-3.1	0.3	-22.7	-14.8	-6213.8	1.0	-4.0	-8.5	2	0
		T.L.	1.0	-132.0	-154.5	-12.8	-19.3	-216.0	-17.0	-3.1	0.3	-21.5	-12.5	-5722.1	1.0	-3.6	-7.5	2	0
	RSR	E.F.	0.2	12.3	12.7	4.0	4.6	15.1	4.4	2.0	0.9	4.9	4.0	78.8	0.2	2.2	3.1	2	0
		T.L.	0.2	11.5	12.5	3.7	4.5	14.7	4.3	2.0	0.9	4.8	3.7	75.7	0.2	2.2	2.9	2	0
	PBIAS	E.F.	-11.9	-446.9	-953.7	-1464.4	-1122.0	-289.0	-1128.7	-675.3	60.8	-201.3	-1512.8	-278.8	-8.6	-1166.5	-220.6	1	1
		T.L.	-8.5	-420.8	-935.5	-1365.4	-1095.2	-282.2	-1094.6	-675.3	60.8	-196.3	-1400.8	-267.5	-8.6	-1125.6	-209.6	2	0
PMDPC	*NSE*	E.F.	0.4	-1.0	0.9	0.7	1.0	-10.0	1.0	1.0	0.7	-1.3	-0.2	-387.0	0.5	1.0	0.0	5	2
		T.L.	0.8	-2.1	0.9	0.9	1.0	-9.9	1.0	1.0	0.7	-1.0	1.0	-414.0	0.5	1.0	0.0	8	1
	RSR	E.F.	0.8	1.4	0.4	0.5	0.1	3.3	0.1	0.1	0.6	1.5	1.1	19.7	0.7	0.1	1.0	5	2
		T.L.	0.5	1.8	0.4	0.3	0.1	3.3	0.2	0.1	0.6	1.4	0.1	20.4	0.7	0.0	1.0	8	1
	PBIAS	E.F.	-41.1	51.1	-28.2	-198.3	-32.4	63.4	-34.0	-41.4	-41.4	62.9	-413.3	69.6	-41.4	-27.7	71.9	0	0
		T.L.	23.5	64.2	-27.5	-107.1	-21.7	63.2	-39.5	-41.4	-41.4	58.5	-44.8	72.0	-41.3	-20.1	71.8	0	0
K-K Unadj.	*NSE*	2F	-2.0	-1.7	0.5	0.9	1.0	-0.1	1.0	1.0	-0.3	1.0	0.7	-40.3	-0.9	1.0	1.0	7	1
	RSR	2F	1.7	1.6	0.7	0.3	0.2	1.1	0.1	0.1	1.2	0.2	0.6	6.4	1.4	0.0	0.2	7	1
	PBIAS	2F	88.7	-59.9	55.4	-101.7	38.7	-20.1	31.0	25.6	82.4	-7.1	-216.3	-22.7	78.3	16.3	-14.6	1	1
K-K Adj.	*NSE*	2F	-2.0	-1.7	0.5	0.9	1.0	-0.1	1.0	1.0	-0.6	1.0	0.8	-40.3	-1.1	1.0	1.0	8	0
	RSR	2F	1.7	1.6	0.7	0.3	0.2	1.1	0.1	0.1	1.3	0.2	0.5	6.4	1.4	0.0	0.2	8	0
	PBIAS	2F	88.7	-59.9	55.4	-101.7	38.7	-20.1	31.0	25.6	89.7	-7.1	-184.8	-22.7	81.6	16.3	-14.6	1	1
MinVi with Kerby	*NSE*	2F	-2.0	-0.7	0.4	1.0	1.0	-0.1	1.0	1.0	-0.3	1.0	1.0	-29.7	-0.9	1.0	1.0	8	0
	RSR	2F	1.7	1.3	0.8	0.0	0.2	1.1	0.1	0.1	1.2	0.2	0.0	5.5	1.4	0.0	0.2	8	0
	PBIAS	2F	88.7	-47.9	56.3	9.4	38.7	-20.1	33.4	25.6	82.4	-7.1	-1.7	-19.6	78.3	16.3	-14.6	3	1

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
MinVi with FAA	*NSE*	2F	-1.7	-2.7	1.0	1.0	1.0	-8.2	1.0	1.0	0.7	-2.0	1.0	-418.2	0.4	1.0	0.4	7	1
	RSR	2F	1.6	1.9	0.0	0.1	0.0	3.0	0.1	0.0	0.6	1.7	0.1	20.5	0.8	0.2	0.8	7	1
	PBIAS	2F	83.6	70.5	-0.5	-29.0	6.3	58.2	13.8	1.5	39.7	71.2	-54.8	72.4	45.4	-113.0	54.7	3	1
MinVi with NRCS Sh.	*NSE*	2F	-0.8	0.7	1.0	0.9	1.0	-10.6	0.9	1.0	0.7	-1.0	0.9	-278.8	0.4	0.9	0.5	7	2
	RSR	2F	1.3	0.6	0.0	0.3	0.2	3.4	0.2	0.2	0.6	1.4	0.3	16.7	0.8	0.3	0.7	7	2
	PBIAS	2F	67.5	20.1	2.6	-115.5	-47.8	65.2	-60.9	-51.5	40.8	57.7	-129.5	59.2	43.1	-130.4	52.0	1	0

Tc Eq. = *Tc* Equation; Stat. Var. = Statistical Variable; 7 Ago = 7 de Agosto; Bazu. = Bazurto; Canp = Canapote, Tor. = Torices; Crpto = Crespito; Cres. = Crespo; D. Lem. = Daniel Lemaitre; P.Cerro = Pie del Cerro; Sn Fran. = San Francisco; E.F. = Each type of flows; T.L. = Total flow length; V.G. = Very Good; G. = Good; MinVi = MinVivienda; K-K = Kerby-Kirpich; NRCS Sh = NRCS Shallow concentrated flow equation; Adj = Adjusted; Unadj = Unadjusted; 2F = Methodology based on two types of flow (Sheet and Shallow Concentrated flows are treated like one)

Table S16. Results of statistical variables with P_2 under non-stationary conditions

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
Miller	*NSE*	E.F.	-1.1	-1948.1	0.6	0.9	1.0	-15228.3	1.0	1.0	-0.4	-1209.0	0.8	-14639.9	-1.0	1.0	-200.5	6	0
		T.L.	-1.6	-820.6	0.2	1.0	1.0	-7988.0	1.0	1.0	-0.4	-673.0	1.0	-6848.2	-1.0	1.0	-84.4	6	0
	RSR	E.F.	1.4	44.2	0.6	0.3	0.1	123.4	0.0	0.1	1.2	34.8	0.4	121.0	1.4	0.1	14.2	6	0
		T.L.	1.6	28.7	0.9	0.0	0.2	89.4	0.2	0.1	1.2	26.0	0.1	82.8	1.4	0.0	9.2	6	0
	PBIAS	E.F.	76.6	-2114.9	41.4	-106.4	19.2	-1522.6	-3.6	26.7	85.3	-1258.4	-144.0	-1716.0	82.1	-29.4	-1269.2	1	0
		T.L.	84.7	-1373.2	62.3	8.3	42.4	-1102.8	37.1	26.7	85.3	-939.2	18.7	-1173.7	82.1	13.9	-826.3	1	1
FAA	*NSE*	E.F.	0.1	0.5	0.8	0.7	1.0	-11.3	1.0	1.0	0.7	-2.0	-0.4	-10.6	0.4	0.9	0.9	6	2
		T.L.	-0.7	-0.9	1.0	1.0	1.0	-17.1	1.0	1.0	0.7	-2.4	1.0	-22.1	0.4	1.0	0.7	7	2
	RSR	E.F.	1.0	0.7	0.4	0.6	0.1	3.5	0.1	0.0	0.6	1.7	1.2	3.4	0.8	0.4	0.4	6	2
		T.L.	1.3	1.4	0.0	0.1	0.0	4.3	0.1	0.0	0.6	1.9	0.2	4.8	0.8	0.2	0.5	7	2
	PBIAS	E.F.	50.4	33.3	-28.9	-195.8	-19.6	43.3	-16.1	1.5	39.7	63.0	-426.0	48.3	45.4	-192.0	31.6	1	0
		T.L.	69.6	66.0	-1.2	-45.6	5.7	52.5	12.5	1.5	39.7	67.1	-53.1	68.1	45.4	-116.2	47.7	3	1
Kerby	*NSE*	E.F.	-0.9	-6.3	0.6	0.9	1.0	-28.0	1.0	1.0	-0.3	-0.4	0.9	-31.9	-0.8	1.0	0.3	6	0
		T.L.	-1.4	-1.1	0.3	1.0	1.0	-7.7	1.0	1.0	-0.3	0.6	1.0	-6.2	-0.8	1.0	0.9	7	0
	RSR	E.F.	1.4	2.7	0.6	0.3	0.1	5.4	0.0	0.1	1.1	1.2	0.4	5.7	1.3	0.0	0.9	6	0
		T.L.	1.6	1.4	0.8	0.0	0.2	3.0	0.1	0.1	1.1	0.6	0.1	2.7	1.3	0.0	0.4	7	0
	PBIAS	E.F.	73.9	-129.7	42.3	-87.6	20.9	-66.4	6.7	25.6	82.4	-42.7	-127.9	-81.3	78.3	-15.9	-77.0	1	0
		T.L.	82.5	-68.5	56.0	4.0	38.3	-36.4	32.4	25.6	82.4	-21.9	17.3	-37.9	78.3	15.1	-32.3	1	0
Kerby - Slope adjusted	*NSE*	E.F.	-1.2	-6.3	0.6	0.9	1.0	-28.0	1.0	1.0	-0.5	-0.4	0.9	-31.9	-0.9	1.0	0.3	6	0
		T.L.	-1.5	-1.0	0.3	1.0	1.0	-7.7	1.0	1.0	-0.5	0.6	1.0	-6.2	-0.9	1.0	0.9	7	0
	RSR	E.F.	1.5	2.7	0.6	0.3	0.1	5.4	0.0	0.1	1.2	1.2	0.3	5.7	1.4	0.0	0.9	6	0
		T.L.	1.6	1.4	0.8	0.0	0.2	3.0	0.1	0.1	1.2	0.6	0.1	2.7	1.4	0.0	0.4	7	0
	PBIAS	E.F.	78.1	-129.7	42.3	-87.6	20.9	-66.4	6.7	25.6	89.7	-42.7	-116.8	-81.3	81.6	-15.9	-77.0	1	0
		T.L.	83.5	-68.5	56.0	4.0	38.3	-36.4	32.4	25.6	89.7	-21.9	17.3	-37.9	81.6	15.1	-32.3	1	0
Espey-Winslow	*NSE*	E.F.	-262.6	-5150.7	-4357.6	-1107.6	-519.1	-29864.5	-711.1	-118.3	-33.5	-844.2	-1425.4	-21020.6	-101.1	-1425.0	-1216.9	0	0
		T.L.	-100.3	-1040.3	-1646.0	-219.7	-242.2	-14598.4	-236.4	-118.3	-33.5	-417.2	-193.3	-5066.3	-101.1	-592.9	-501.8	0	0

																		Count	
Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	V.G.	G.
	RSR	E.F.	16.2	71.8	66.0	33.3	22.8	172.8	26.7	10.9	5.9	29.1	37.8	145.0	10.1	37.8	34.9	0	0
		T.L.	10.1	32.3	40.6	14.9	15.6	120.8	15.4	10.9	5.9	20.5	13.9	71.2	10.1	24.4	22.4	0	0
	PBIAS	E.F.	-861.3	-3438.4	-4502.9	-11680.4	-5248.1	-2132.3	-6553.4	-3420.8	-425.3	-1051.7	-13766.8	-2056.2	-594.7	-19028.1	-3120.6	0	0
		T.L.	-534.0	-1545.8	-2768.0	-5211.1	-3588.7	-1490.8	-3783.7	-3420.8	-425.3	-739.8	-5080.4	-1009.5	-594.6	-12280.0	-2005.1	0	0
NRCS-Lag Equation	*NSE*	E.F.	-0.5	1.0	1.0	0.6	0.9	-21.5	0.9	1.0	0.7	-0.9	0.6	-10.6	0.5	0.9	0.8	7	1
		T.L.	-0.6	1.0	1.0	0.8	1.0	-23.1	0.9	1.0	0.7	-1.1	0.8	-12.7	0.5	0.9	0.8	9	1
	RSR	E.F.	1.2	0.2	0.1	0.6	0.3	4.7	0.3	0.2	0.6	1.4	0.6	3.4	0.7	0.3	0.4	7	1
		T.L.	1.3	0.1	0.0	0.5	0.2	4.9	0.3	0.2	0.6	1.4	0.5	3.7	0.7	0.3	0.5	9	1
	PBIAS	E.F.	64.7	-11.0	-3.5	-225.1	-58.3	58.5	-77.6	-51.5	40.8	49.4	-223.2	48.3	43.1	-155.2	39.3	1	1
		T.L.	67.5	2.7	1.8	-174.8	-48.8	60.6	-63.9	-51.5	40.8	51.8	-168.9	52.5	43.1	-133.8	44.6	2	0
Kirpich	*NSE*	E.F.	0.6	-0.2	1.0	0.9	1.0	-30.8	1.0	1.0	0.6	-2.9	0.6	-22.8	0.6	1.0	0.4	6	0
		T.L.	-0.3	-1.0	0.9	1.0	1.0	-32.3	1.0	1.0	0.6	-2.8	1.0	-26.9	0.6	1.0	0.4	7	0
	RSR	E.F.	0.7	1.1	0.2	0.4	0.0	5.6	0.0	0.0	0.6	2.0	0.7	4.9	0.7	0.0	0.8	6	0
		T.L.	1.1	1.4	0.3	0.1	0.1	5.8	0.0	0.0	0.6	2.0	0.0	5.3	0.7	0.0	0.8	7	0
	PBIAS	E.F.	34.8	51.6	14.5	-133.1	-1.6	69.6	-8.5	-5.1	43.6	71.3	-237.3	69.1	38.2	-18.9	68.5	3	1
		T.L.	60.2	68.2	20.7	-45.0	10.6	71.2	-0.7	-5.1	43.6	70.6	-10.9	74.9	38.2	-2.4	71.7	3	2
Kirpich - Slope adjusted	*NSE*	E.F.	0.0	-0.2	1.0	0.9	1.0	-30.8	1.0	1.0	-0.1	-2.9	0.7	-22.8	0.2	1.0	0.4	6	1
		T.L.	-0.5	-1.0	0.9	1.0	1.0	-32.3	1.0	1.0	-0.1	-2.8	1.0	-26.9	0.2	1.0	0.4	7	0
	RSR	E.F.	1.0	1.1	0.2	0.4	0.0	5.6	0.0	0.0	1.1	2.0	0.6	4.9	0.9	0.0	0.8	6	1
		T.L.	1.2	1.4	0.3	0.1	0.1	5.8	0.0	0.0	1.1	2.0	0.0	5.3	0.9	0.0	0.8	7	0
	PBIAS	E.F.	52.3	51.6	14.5	-133.1	-1.6	69.6	-8.5	-5.1	76.5	71.3	-205.5	69.1	52.9	-18.9	68.5	3	1
		T.L.	64.1	68.2	20.7	-45.0	10.6	71.2	-0.7	-5.1	76.5	70.6	-10.9	74.9	52.9	-2.4	71.7	3	2
Bransby-Williams	*NSE*	E.F.	0.4	1.0	-2.3	0.4	0.6	-0.3	0.7	0.9	0.1	0.5	0.2	-1.9	0.6	0.9	0.9	4	1
		T.L.	0.1	1.0	-2.3	0.5	0.6	-0.3	0.7	0.9	0.1	0.6	0.7	-2.3	0.6	0.9	0.9	4	2
	RSR	E.F.	0.8	0.2	1.8	0.8	0.7	1.1	0.6	0.3	1.0	0.7	0.9	1.7	0.7	0.4	0.3	4	1
		T.L.	1.0	0.0	1.8	0.7	0.6	1.1	0.6	0.3	1.0	0.6	0.5	1.8	0.7	0.4	0.3	4	2
	PBIAS	E.F.	40.2	-8.2	-123.2	-281.1	-154.2	14.1	-139.7	-90.5	69.1	26.0	-319.2	24.1	39.6	-181.5	22.4	1	1
		T.L.	51.7	1.9	-122.9	-241.8	-145.9	13.9	-143.9	-90.5	69.1	22.7	-192.1	25.7	39.6	-174.8	22.3	1	1

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
Johnstone-Cross	*NSE*	E.F.	0.4	0.5	1.0	0.3	1.0	-30.6	1.0	1.0	0.0	-2.7	-1.5	-14.5	0.9	1.0	0.6	6	0
		T.L.	0.7	-1.3	0.8	1.0	1.0	-35.2	1.0	1.0	0.0	-3.0	1.0	-28.3	0.9	1.0	0.5	8	1
	RSR	E.F.	0.8	0.7	0.1	0.8	0.1	5.6	0.2	0.2	1.0	1.9	1.6	3.9	0.4	0.1	0.6	6	0
		T.L.	0.5	1.5	0.4	0.2	0.1	6.0	0.0	0.2	1.0	2.0	0.0	5.4	0.4	0.0	0.7	8	1
	PBIAS	E.F.	-42.7	32.7	9.5	-290.1	-14.9	69.4	-39.3	-47.4	-71.6	69.3	-581.2	55.8	-22.5	-66.7	55.8	1	1
		T.L.	28.8	71.9	30.1	-60.9	11.0	74.3	-4.9	-47.4	-71.6	71.9	-12.9	76.8	-22.4	-20.8	66.2	1	2
Sheridan	*NSE*	E.F.	1.0	-116.9	-197.0	-16.8	-23.1	-764.4	-20.6	-3.7	0.3	-44.2	-16.6	-564.0	1.0	-4.5	-8.1	2	0
		T.L.	1.0	-103.9	-189.5	-14.5	-22.0	-730.1	-19.3	-3.7	0.3	-42.1	-14.1	-521.3	1.0	-4.2	-7.3	2	0
	RSR	E.F.	0.2	10.9	14.1	4.2	4.9	27.7	4.7	2.2	0.8	6.7	4.2	23.8	0.2	2.4	3.0	2	0
		T.L.	0.2	10.2	13.8	3.9	4.8	27.0	4.5	2.2	0.8	6.6	3.9	22.9	0.2	2.3	2.9	2	0
	PBIAS	E.F.	-12.0	-520.2	-959.7	-1479.9	-1130.0	-341.3	-1142.0	-675.3	60.8	-243.1	-1530.3	-337.1	-8.6	-1185.3	-270.0	1	1
		T.L.	-8.7	-490.6	-941.4	-1380.0	-1103.0	-333.6	-1107.6	-675.3	60.8	-237.4	-1417.1	-324.1	-8.6	-1143.8	-257.3	2	0
PMDPC	*NSE*	E.F.	0.4	0.1	0.8	0.7	1.0	-21.5	1.0	1.0	0.7	-1.6	-0.3	-20.0	0.5	1.0	0.4	5	2
		T.L.	0.8	-0.5	0.8	0.9	1.0	-21.3	1.0	1.0	0.7	-1.1	1.0	-21.8	0.5	1.0	0.4	8	1
	RSR	E.F.	0.8	0.9	0.4	0.6	0.1	4.7	0.1	0.1	0.6	1.6	1.2	4.6	0.7	0.1	0.8	5	2
		T.L.	0.4	1.2	0.4	0.3	0.1	4.7	0.2	0.1	0.6	1.5	0.1	4.8	0.7	0.0	0.8	8	1
	PBIAS	E.F.	-41.3	44.5	-28.9	-201.3	-33.3	58.5	-35.4	-41.4	-41.4	57.8	-418.8	65.0	-41.4	-29.5	67.6	0	0
		T.L.	23.4	59.4	-28.2	-109.2	-22.5	58.2	-41.0	-41.4	-41.4	52.8	-46.4	67.7	-41.3	-21.9	67.5	0	0
K-K Unadj.	*NSE*	2F	-1.8	-1.9	0.4	0.9	1.0	-7.7	1.0	1.0	-0.3	0.6	0.6	-7.6	-0.8	1.0	0.9	6	0
	RSR	2F	1.7	1.7	0.8	0.3	0.2	2.9	0.1	0.1	1.1	0.6	0.6	2.9	1.3	0.0	0.4	6	0
	PBIAS	2F	88.7	-81.3	55.2	-103.7	38.3	-36.3	30.3	25.6	82.4	-21.9	-219.7	-41.6	78.3	15.1	-32.3	0	0
K-K Adj.	*NSE*	2F	-1.8	-1.9	0.4	0.9	1.0	-7.7	1.0	1.0	-0.5	0.6	0.7	-7.6	-0.9	1.0	0.9	6	1
	RSR	2F	1.7	1.7	0.8	0.3	0.2	2.9	0.1	0.1	1.2	0.6	0.5	2.9	1.4	0.0	0.4	6	1
	PBIAS	2F	88.7	-81.3	55.2	-103.7	38.3	-36.3	30.3	25.6	89.7	-21.9	-187.9	-41.6	81.6	15.1	-32.3	0	0
MinVi with Kerby	*NSE*	2F	-1.8	-1.0	0.3	1.0	1.0	-7.7	1.0	1.0	-0.3	0.6	1.0	-6.2	-0.8	1.0	0.9	7	0
	RSR	2F	1.7	1.4	0.8	0.0	0.2	2.9	0.1	0.1	1.1	0.6	0.0	2.7	1.3	0.0	0.4	7	0
	PBIAS	2F	88.7	-67.7	56.0	8.5	38.3	-36.3	32.7	25.6	82.4	-21.9	-2.8	-38.0	78.3	15.1	-32.3	2	0
Min Vi with	*NSE*	2F	-1.5	-0.9	1.0	1.0	1.0	-17.1	1.0	1.0	0.7	-2.4	1.0	-22.1	0.4	1.0	0.7	7	2

Tc Eq.	Cond.	Flow Length	7 de Ago	Bazurto	Canp.	Torices Calle 37	Torices Calle 42	Torices Calle 44	Torices Calle 50	Crpto	Crespo	Daniel Lem.	P. Cerro Cra 16A	P. Cerro Cra 21B	Manga	Sn Fran. Calle 77	Sn Fran. Loma	Count V.G.	Count G.
	RSR	2F	1.6	1.4	0.0	0.1	0.0	4.3	0.1	0.0	0.6	1.9	0.2	4.8	0.8	0.2	0.5	7	2
	PBIAS	2F	83.6	66.6	-1.0	-30.3	5.7	52.5	12.8	1.5	39.7	67.1	-56.5	68.2	45.4	-116.2	47.7	3	1
MinVi with NRCS Sh.	*NSE*	2F	-0.6	1.0	1.0	0.9	1.0	-23.1	0.9	1.0	0.7	-1.1	0.9	-12.9	0.5	0.9	0.8	9	1
	RSR	2F	1.3	0.2	0.0	0.3	0.2	4.9	0.3	0.2	0.6	1.4	0.4	3.7	0.7	0.3	0.5	9	1
	PBIAS	2F	67.5	9.4	2.0	-117.7	-48.8	60.6	-62.7	-51.5	40.8	51.8	-132.0	52.9	43.1	-133.8	44.6	2	0

Tc Eq. = *Tc* Equation; Stat. Var. = Statistical Variable; 7 Ago = 7 de Agosto; Bazu. = Bazurto; Canp = Canapote, Tor. = Torices; Crpto = Crespito; Cres. = Crespo; D. Lem. = Daniel Lemaitre; P.Cerro = Pie del Cerro; Sn Fran. = San Francisco; E.F. = Each type of flows; T.L. = Total flow length; V.G. = Very Good; G. = Good; MinVi = MinVivienda; K-K = Kerby-Kirpich; NRCS Sh = NRCS Shallow concentrated flow equation; Adj = Adjusted; Unadj = Unadjusted; 2F = Methodology based on two types of flow (Sheet and Shallow Concentrated flows are treated like one)