Model characterization					
A	[L^2]	Total catchment area	FD		Fully distributed model
L_C	[L]	Characteristic length of the catchment	L_{RA}	[L]	Spatial resolution of the runoff model
L_S	[L]	Sewer length	SD1		Low-resolution semi-distributed model
SD2		High-resolution semi-distributed model	t_{lag}	[T]	Lag time centroid to centroid
Rainfall resolution					
d	[T]	Rainfall event duration	N_{tot}	(–)	Total number of pixels over the catchment
Δs	[L]	Spatial rainfall resolution	Δt	(min)	Temporal rainfall resolution
Variogram					
A_r	[L^2]	Areal average of spatial rainfall structure	n	(–)	Number of radar pixels
R	[L T^{-1}]	Rainfall rate	r	[L]	Variogram range
r_c	[L]	Characteristic length scale	$\lvert\bar{v}\rvert$	[L T^{-1}]	Storm motion
γ		Climatological semi-variogram	Δs_r	[L]	Minimum required spatial resolution
Δt_r	[T]	Minimum required temporal resolution			
Spatial variability index					
I_σ	[L T^{-1}]	Spatial variability index	R_t	[L T^{-1}]	Spatially averaged rainfall intensity
σ_t	[L T^{-1}]	Standard deviation of spatially distributed hourly rainfall			
Statistical indicators					
P_{st}	[L T^{-1}]	Peak of aggregated rainfall	P_{ref}	[L T^{-1}]	Measured rainfall peak (100 m–1 min)
Re_Q	(–)	Relative error on maximum flow peak	Re_R	(–)	Peak attenuation ratio
R^2_Q	(–)	Coefficient of determination for flow	R^2_R	(–)	Coefficient of determination for rainfall
Cluster					
%cov	(–)	Percentage of coverage	N_t	(–)	Number of pixel above Z at each time step
S_Z	[L^2]	Cluster dimension above Z	Z	[L T^{-1}]	Selected threshold
$T_{w_{max}}$	[T]	Maximum wet period above Z	$T_{d_{max}}$	[T]	Maximum dry period above Z
Z_x	[L T^{-1}]	Threshold above the xth percentile, with $x \in [25, 50, 75, 95]$			
S_{Zx}	[L^2]	Cluster dimension above the threshold Z_x, with $x \in [25, 50, 75, 95]$			
$T_{w_{Zx}}$	[T]	Maximum wet period above Z_x averaged over d, with $x \in [25, 50, 75, 95]$			
$T_{d_{Zx}}$	[T]	Maximum dry period above Z_x averaged over d, with $x \in [25, 50, 75, 95]$			
Dimensionless parameters					
S		Subscript for spatial factors	T		Subscript for temporal factors
ST		Subscript for combined scaling factors	α_1	(–)	Scaling factor that combines δ_S and γ_S
α_2	(–)	Scaling factor that combines δ_S and γ_T	α_3	(–)	Scaling factor that combines δ_{ST} and γ_{ST}
δ	(–)	Rainfall scaling factor using S_{Z75}	γ	(–)	Model scaling factor
θ	(–)	Scaling factors proposed by Ochoa-Rodriguez et al. (2015)			