NOMENCLATURE

AGNPS	Agriculture Non Point Source
ARS	Agricultural Research Service
CEMA	Centro de Estudios Medio Ambientales
EQC	Equilibrium Criterion
ECETOC	European Centre for Ecotoxicology and Toxicology of Chemicals
ESPOL	Escuela Superior Politécnica del Litoral
EXAMS	Exposure Assessment Modelling System
g.a.i.	Grams of active ingredient
kg.a.i.	Kilograms of active ingredient
IGM	Instituto Geográfico Militar
INAMHI	Instituto Nacional de Meteorología e Hidrología
MUSLE	Modified Universal Soil Loss Equation
SCS	Soil Conservation Service
SWAT	Soil and Water Assessment Tool
RUSLE	Revised Universal Soil Loss Equation
USDA	United States Department of Agriculture
USLE	Universal Soil Loss Equation

NOTATION

A_{LEAF}	Mean leaf area of the plant	cm^2
$A_{pesticide\ (t)}$	Application rate of pesticide applied to the plant at time t	$kg.s^{-1}$
AM_{ROOT}	Estimated unitary root mass	$kg.Ha^{-1}$
B	Benefit factor	-
$BOD_{domestic}$	Biochemical Oxygen Demand for domestic wastewater	$mg.l^{-1}$
C	Concentration of the chemical	$mg.l^{-1}$
C_0	Initial concentration at the point of discharge	$mg.l^{-1}$
Cl	Clay soil fraction	%
C_h	Pesticide concentration at the height of release	$\mu g.m^{-3}$
$C_{hydrophilic}$	Pesticide concentration in the hydrophilic state (water phase)	$mg.l^{-1}$
$C_{lipophilic}$	Pesticide concentration in the lipophilic state	$mg.kg^{-1}$
C_M	Cover management factor in USLE approach	-
C_X	Predicted environmental concentration at distance X from source	$mg.l^{-1}$
C_S	Pesticide concentration attached to the soil particle	$mg.kg^{-1}$
C_Z	Pesticide concentration at the height of reception	$\mu g.m^{-3}$
C_W	Pesticide concentration in the surrounding water	$mg.l^{-1}$
CN	Curve Number	-
D	Dispersion coefficient of the chemical in the water	$m^2.s^{-1}$
Den	Plant population density in the farm	$plants.Ha^{-1}$
Dg	Geometric mean soil particle diameter	-
D_X	Diffusion coefficient in x direction	$m^2.s^{-1}$
D_Y	Diffusion coefficient in y direction	$m^2.s^{-1}$
D_Z	Diffusion coefficient in z direction	$m^2.s^{-1}$
E	Energy produced by the impact of a typical raindrop	$MJ.Ha^{-1}$
E_T	Actual vapour pressure for a specific temperature	mbar
E_W	Saturation vapor pressure over water	mbar
H_{SUCKER}	Height of the tallest sucker	cm
i	Intensity of the rain	$mm.h^{-1}$
I_{30}	Maximum 30-min intensity for a specific storm	$mm.h^{-1}$

k	First-order degradation rate of the chemical	s^{-1}
K	Effective soil hydraulic conductivity	$cm.s^{-1}$
k_d	Solid-liquid partitioning coefficient	$l.kg^{-1}$
k_F	Pesticide first-order degradation rate on the foliage including photolysis, chemical reaction, hydrolysis, biodegradation and volatilization.	s^{-1}
K_{OW}	Octanol-Water partition coefficient for the pesticide	-
K_S	Soil erodibility factor in USLE approach	$Ton.Ha^{-1}.Ha.MJ^{-1}.mm^{-1}.h$
k_T	Transformation rate coefficient (hydrolysis, biodegradation, volatilization)	s^{-1}
l_{daily}	Average linear distribution of BOD loading along the river length	$kg.day^{-1}.km^{-1}$
L river	Length of monitored river stream	km
L_{SLOPE}	Length of the maximum downhill slope	m
$Load_{daily}$	BOD loading on daily basis	$kgBOD.day^{-1}$
LS	Slope-length factor in USLE approach	-
$M_{foliage\ (t)}$	Mass of pesticide on foliage at time t	kg
N	Number of inhabitants	-
n_T	Total porosity of the aquifer matrix	-
P	Erosion-control practice factor in USLE approach	-
P(i)	Probability	-
P_{month}	Maximum 24-h precipitation for a specific month	mm
Q_{sewage}	Domestic wastewater flow	$m^3.s^{-1}$
q_U	Unitary sewage production	$l.hab^{-1}.day^{-1}$
R	Annual Rainfall energy factor in USLE approach	$MJ.Ha^{-1}.year^{-1}.mm.h^{-1}$
R_I	Rainfall energy factor for a specific storm	$MJ.Ha^{-1}.mm.h^{-1}$
R_F	Retardation factor	-
s	Terrace slope grade or ground slope	%
$Sink_{water}$	Water transported by other mechanisms than flow (e.g. evapotranspiration)	s^{-1}
S_{LOSS}	Estimated soil loss	$ton.ha^{-1}.year^{-1}$
S_{month}	Standard deviation of the mean 24-h precipitation for the month	mm
Sn	Sand soil fraction	%
St	Silt soil fraction	%
T_{AIR}	Dry air temperature	ºC
T_{DEW}	Dew point temperature	ºC
T_{RETURN}	Recurrence interval of precipitation	years
T_{WET}	Wet bulb temperature	ºC
v	Velocity of the river	$m.s^{-1}$

V	Uniform horizontal groundwater flow velocity	$m.s^{-1}$
V_X	Uniform flow velocity in x direction	$m.s^{-1}$
V_Y	Uniform flow velocity in y direction	$m.s^{-1}$
V_Z	Uniform flow velocity in z direction	$m.s^{-1}$
w	Mean water content ratio of the root system	-
$W_{\text{pesticide (t)}}$	Washoff rate of pesticide wiped out from foliage	$kg.s^{-1}$
X_{month}	Mean 24-h precipitation for a specific month	mm
α	Dispersion fitting parameter in Gumbel equation for precipitation	mm^{-1}
γ	Euler's constant ($\gamma = 0.577215664901\ldots$)	-
δ	Slope angle	radians or degrees
θ	Volumetric soil-water content	-
μ	Mode fitting parameter in Gumbel equation for precipitation	mm
ρ_b	Bulk density of the aquifer matrix	$kg.m^{-3}$
σ	Standard deviation of the spraying cloud distribution	m^2
Φ_C	Arithmetic mean diameter of clay size boundaries	mm
Φ_{PSEUDO}	Pseudostem circumference	cm
Φ_{St}	Arithmetic mean diameter of silt size boundaries	mm
Φ_S	Arithmetic mean diameter of sand size boundaries	mm
ψ	Soil-water potential	-
ω	Variate used to calculate the recurrence interval of precipitation	-