

Description of the dataset

RAINFALL

T1_ssf_rainA2 = triggering rainfall events with associated subsurface stormflow (SSF) (simple and complex/sub-events) events. Structured as follows: e.g.

[number SSF event (simple&complex)]	[number of rainfall event]	
1	1	<- simple event
2	2	<- 1 st sub-event of complex event (nr 2)
2	3	<- 2 st sub-event of complex event (nr 2)
3	4	<- simple event

T1_ssf_rainB = ambiguous rainfall events with associated SSF (simple and complex) event. Structured as follows:
[number of ssf event (simple&complex)] [number of rainfall event]

T1_ssf_rainC = non-triggering rainfall events. [number of non-triggering rainfall event]

T1_ssf_rainAB = triggering and ambiguous events associated with SSF event (simple&complex). Structured as follows:

[number of ssf event (simple&complex)] [number of rainfall event]

(e.g. used to calculate total rainfall during an SSF event)

Rainfall Event Characteristics

T1_tot_depth_A2 = total depth of triggering rainfall events (A2 -> associated to simple and sub-events) (mm)

T1_events_rate_A2 = average rainfall intensity of triggering rainfall events (mm/h)

T1_events_rate_I5_A2 = max 5-min rainfall intensity (mm/h)

T1_events_rate_I30_A2 = max 30-min rainfall intensity (mm/h)

T1_events_rate_I60_A2 = max 60-min rainfall intensity (mm/h)

T1_tot_depth_AB_group = total depth of all events associated to a simple/complex event (i.e. "grouped triggering+ambiguous") (mm). (1st column is the number of the SSF event)

T1_events_rate_A2_group = average of the average rainfall intensity of all triggering events associated to a simple/complex event (i.e. "grouped triggering") (mm/h). (1st column is the number of the SSF event)

T1_events_rate_I5_A2_group = average of the I5 rainfall intensity of all triggering events associated to a simple/complex event (i.e. "grouped triggering") (mm/h). (1st column is the number of the SSF event)

T1_events_rate_I30_A2_group = average of the I30 rainfall intensity of all triggering events associated to a simple/complex event (i.e. "grouped triggering") (mm/h). (1st column is the number of the SSF event)

T1_events_rate_I60_A2_group = average of the I60 rainfall intensity of all triggering events associated to a simple/complex event (i.e. "grouped triggering") (mm/h). (1st column is the number of the SSF event)

T1_tot_depth_B = total depth of the ambiguous events (mm)

T1_tot_depth_C = total depth of the non-triggering events (mm)

ANTECEDENT CONDITIONS

ASI

T1_ASI_simp_comp = antecedent soil moisture index associated with the start of simple and complex ssf events (mm)

T1_ASI_simp_sub = antecedent soil moisture index associated with the start of simple and subevents ssf (mm)

Ptot+ASI

T1_ASI_depth_simp_comp = precipitation depth + antecedent soil moisture index associated with the start of simple and complex ssf events (mm)

T1_ASI_depth_simp_sub = precipitation depth + antecedent soil moisture index associated with the start of simple and subevents ssf (mm)

Initial (avg) soil moisture

T1_initial_wc_simp_sub = initial water content of simple and subevents (%)

T1_initial_wc_simp_comp = initial water content of simple and complex ssf events (%)

Initial Flow

T1_Q_initial_simp_sub = initial flow of simple and subevents (l/h)

T1_Q_initial_simp_comp = initial flow of simple and complex ssf events (l/h)

SSF Event Characteristics

T1_tot_vol_events_simp_comp = total volume of simple and complex ssf events (liters)

T1_events_avgQ_simp_comp = average discharge of simple and complex ssf events (l/h)

T1_mca_simp_comp = minimum contributing area (MCA) of simple and complex ssf events (m²)

T1_maxQ_simp_sub = max increase in Q for simple and subevents (l/h)

T1_resp_time_simp_sub = response time for simple and subevents (minutes)

T1_lag_time_simp_sub = time lag for simple and subevents (minutes)

T1_rising_rate_simp_sub = rising rate for simple and subevents (l/h²)

Seasonality [fall] [winter] [spring] [summer]

T1_depth_non_triggering_rainfall_season = rainfall depth non triggering events (mm)

T1_depth_triggering_rainfall_A2_season = rainfall depth triggering events (mm)

T1_depth_rainfall_AB_group_season = total depth of all events associated to a simple/complex event (i.e. "grouped triggering+ambiguous") (mm)

T1_I30_A2_season = I30 intensity of simp and subevents (mm/h)

T1_initial_WC_simp_sub_season = initial water content of simp and subevents (%)

T1_tot_vol_simp_comp_season = total volume of simple and complex ssf events (m³)

T1_MCA_simp_comp_season = minimum contributing area of simple and complex events (m²)

T1_maxQ_simp_sub_season = max Q of simple and subevents (l/h)

T1_rising_rate_simp_sub_season = rising rate of simple and subevents (l/h²)

T1... = data of trench 1 (T1)

T3... = data of trench 3 (T3)

For more details on the rainfall and subsurface stormflow event delineation, classification and characterization refer to the associated study, where this dataset is used.