Figure S1: Catchment areas corresponding to the selected stations. The catchment delimitation has been performed with the digital elevation model from the Hydrosheds database (https://www.hydrosheds.org/).

High soil moisture ?
$Ssat > Tsm$

Rainfall higher than average?
$P7 > mean(P7)$

Excess rain flood

Long heavy rainfall ?
$P7 > p90_{p7}$

Rainfall concentrated on one day ?
$Pmax > 2/3\ P7$

Long rain flood

Short rain flood

Short heavy rainfall ?
$Pmax > p90_{Pmax}$

Other

YES / NO / YES / NO / NO / YES / YES / NO / YES / NO

Ssat: Soil saturation (%) / Tsm: Soil moisture threshold
P7: Rainfall sum over 7 days / Pmax: Max. rainfall in one day over 7 days
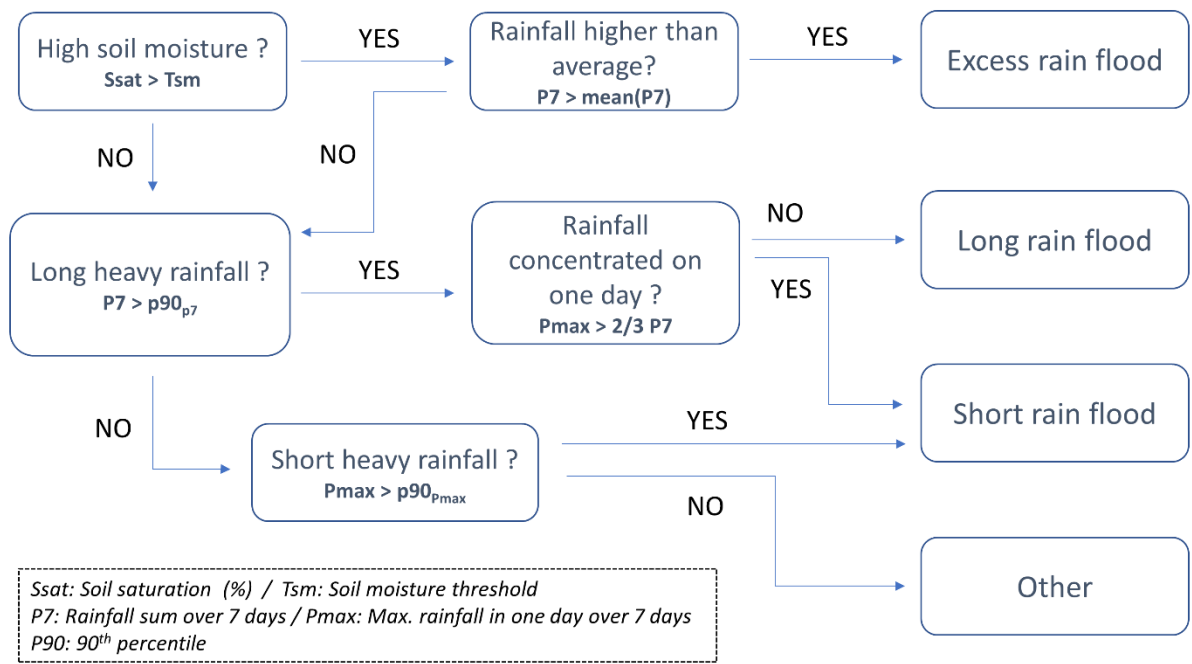*P90: 90th percentile*

Figure S2: Decision tree for flood classification, modified from Stein et al. 2020