Supplementary materials

T1: Climate projections considered in the present study

| General Circulation Model	Regional Climate Model
CNRM-CERFACS-CNRM-CM5	CNRM-ALADIN63
CNRM-CERFACS-CNRM-CM5	KNMI-RACMO22E
ICHEC-EC-EARTH	KNMI-RACMO22E
ICHEC-EC-EARTH	SMHI-RCA4
MOHC-HadGEM2-ES	CLMcom-CCLM4-8-17
IPSL-IPSL-CM5A-MR	SMHI-RCA4
IPSL-IPSL-CM5A-MR	IPSL-WRF381P
MPI-M-MPI-ESM-LR	CLMcom-CCLM4-8-17
MPI-M-MPI-ESM-LR	MPI-CSC-REMO2009
NCC-NorESM1-M	DMI-HIRHAM5
NCC-NorESM1-M	GERICS-REMO2015
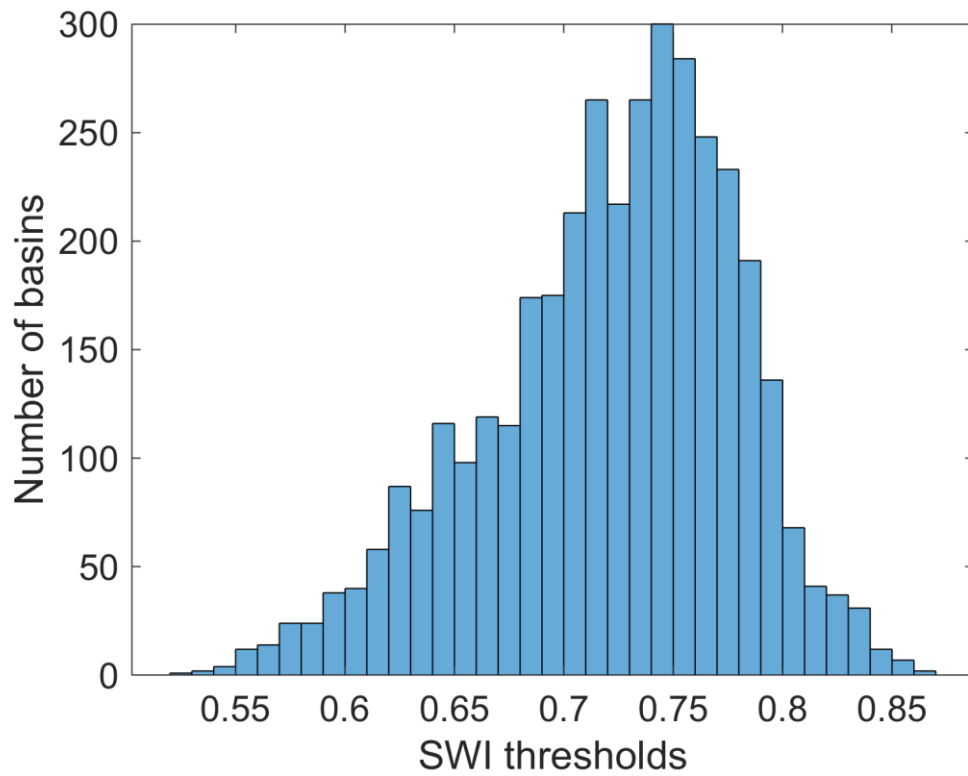
Figure S1: distribution of the SWI thresholds, corresponding to saturated soil conditions, identified for the French catchments
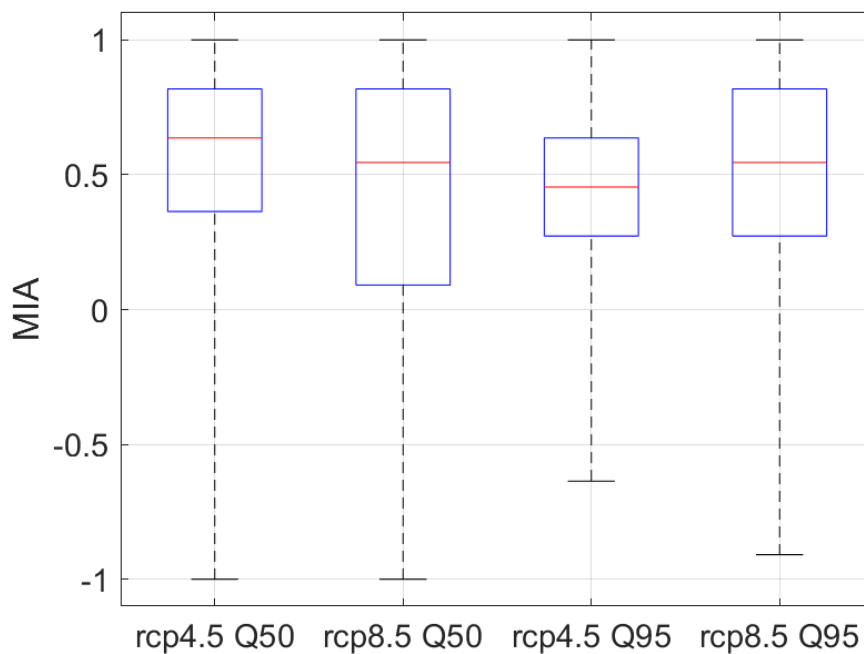

Figure S2: Boxplots of the MIA values for Q50 and Q95 under the RCP4.5 and RCP8.5. On each box, the central mark indicates the median, and the bottom and top edges of the box indicate the 25th and 75th percentiles, respectively. The whiskers extend to the most extreme data points
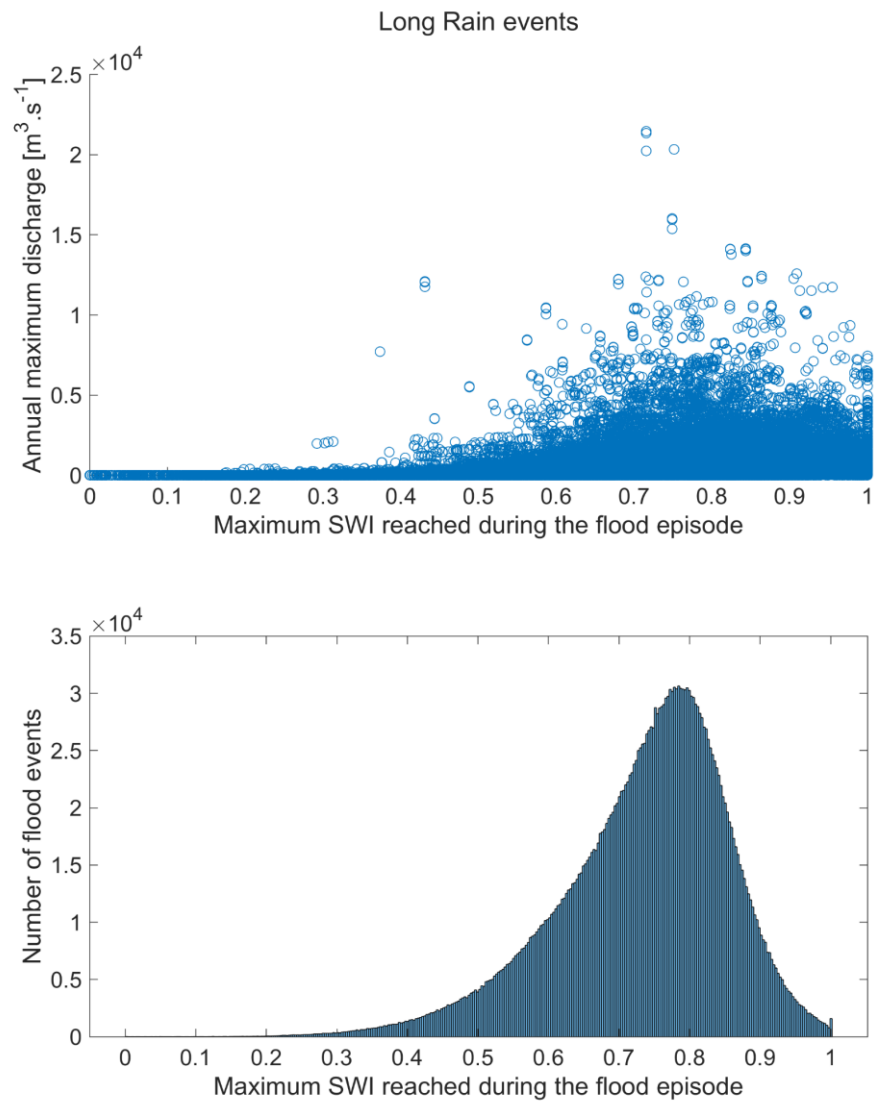
Figure S3: Analysis of the relationship between annual maximum specific discharge and the maximum SWI values reached during the flood events classified as 'long rain', and histogram of the maximum SWI values reached during these episodes.
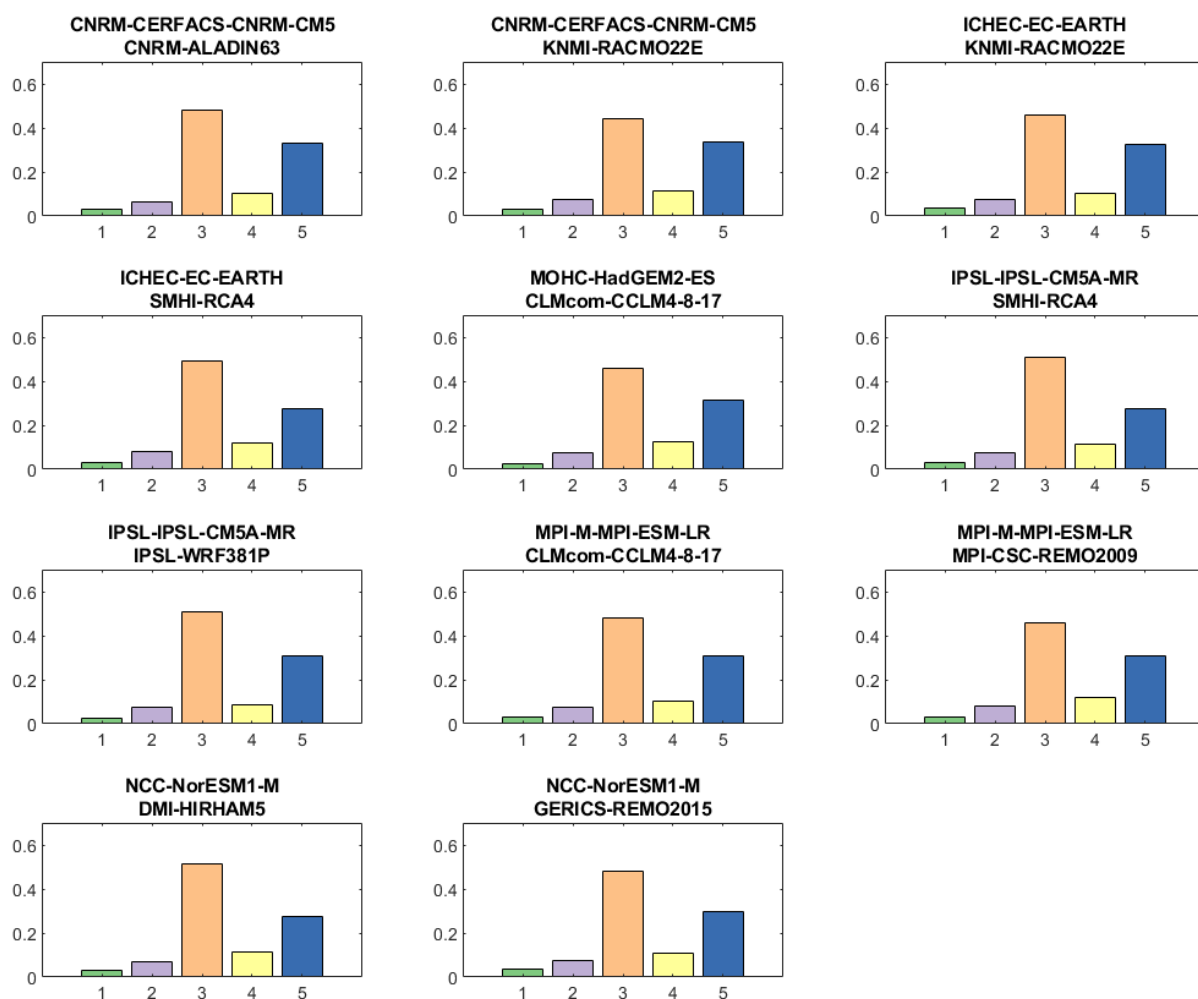
Figure S4: Histogram of the relative frequencies of the different flood-generating mechanisms, reproduced by the different GCM/RCM couples in the historical simulation (HIST - 1975-2005). 1-snow melt, 2- rain and snowmelt, 3-soil water excess, 4-short rain, 5-long rain.
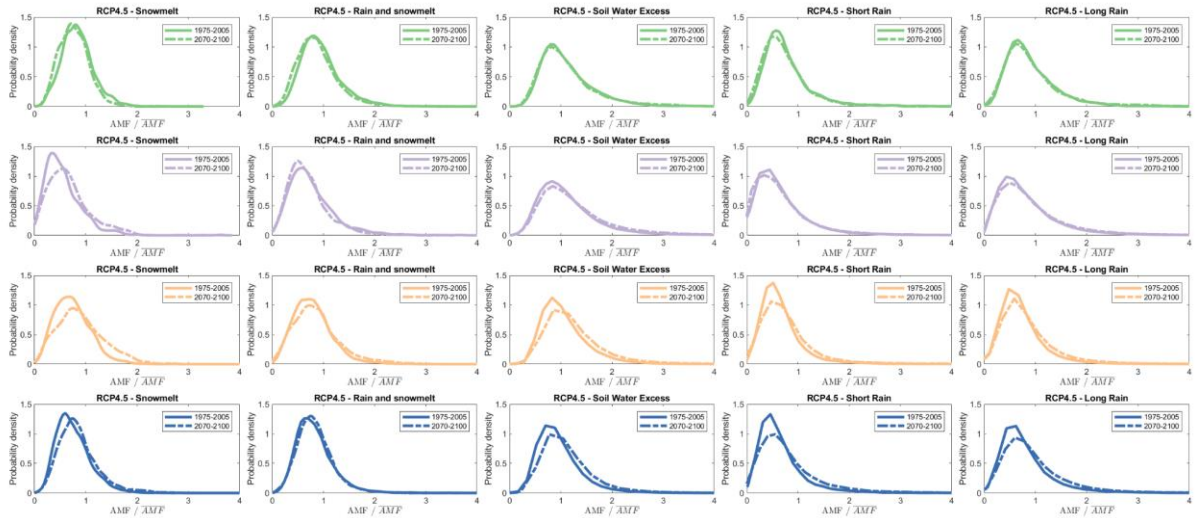
Figure S5: Comparison of the flood distributions for the different regions and the different flood processes between 1975-2005 and 2070-2100 under the RCP4.5. The plots are the regional kernel density estimates, all models pooled together in each region for each flood process. The colors of the 4 lines refer to the colors of the 4 clusters in Figure 7.
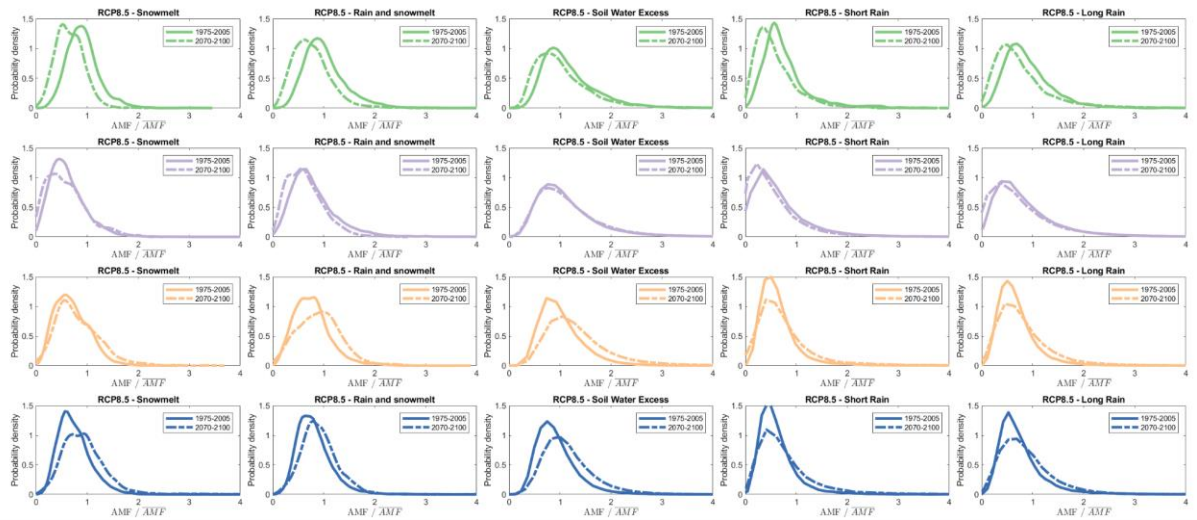

Figure S6: Same as figure S5 but for the RCP8.5