



Figure 1 Location and characteristics of the study area. a) Limits rivers and gauging stations of the watersheds and the Safran grid with daily temperature and precipitation b) Cluster distribution obtained by the k-mean method applied to RDI-03 data over the period 1959-2018. Map data: © OpenStreetMap contributors 2021. Distributed under the Open Data Commons Open Database License (ODbL) v1.0.

Table 1 : Characteristics of the GCMs and of the corresponding RCMs

GCMs	Institute	Horizontal resolution	Forcing models (Atmosphere, Ocean, Sea ice, Land)	RCMs	Resolution	Institute
IPSL-CM5A-MR	IPSL (France)	1.25°x1.25° (~138 km)	LMDZ4, ORCA2, LIM2, ORCHIDEE	WRF381P	0.11°x0.11° (12 km)	IPSL (France)
MPI-ESM-LR	Max Planck (Germany)	1.87°x1.87° (~208 km)	ECHAM6, MPIOM, JSBACH	CCLM4-8-17	0.11°x0.11° (12 km)	CLMcom
MPI-ESM-LR	Max Planck (Germany)	1.87°x1.87° (~208 km)	ECHAM6, MPIOM, JSBACH	REMO2009	0.11°x0.11° (12 km)	CSC (Germany)
CNRM-CM5	CNRM and CERFACS (France)	1.4°x1.4° (~150 km)	ARPEGE-climat, NEMO, GELATO, SURFEX (+TRIP river routing and coupler OASIS 3)	ALADIN63	0.11°x0.11° (12 km)	CNRM (France)
CNRM-CM5	CNRM and CERFACS (France)	1.4°x1.4° (~150 km)	ARPEGE-climat, NEMO, GELATO, SURFEX (+TRIP river routing and coupler OASIS 3)	RACMO22E	0.11°x0.11° (12 km)	KNMI (Netherlands)

EC- EARTH	ICHEC (Ireland)	1.12°x1.12° (~125 km)	IFS, NEMO, LIM2, Htessel,	RCA4	0.11°x0.11° (12 km)	SMHI (Sweden)
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