Supplement of

"EURO-SUPREME: sub-daily precipitation extremes in the EURO-CORDEX 0.11° ensemble"

Anouk Dierickx, Wout Dewettinck, Bert Van Schaeybroeck, Lelsey De Cruz, Steven Caluwaerts, Piet Termonia and Hans Van de Vyver

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Table S1. Spatial domain and simulation periods of the RCMs that contributed to EURO-SUPREME. Note that RCM-downscaling from MOHC-HadGEM2-ESM ends in 2099 instead of 2100.

RCM	Spatial dimension	Min/max longitude and latitude	Historical period	Future period
ALADIN63	453 x 453	52° W–73° E and 21° N–74° N	1951–2005[1]	2006–2100
COSMO-crCLIM	424 x 412	45° W–65° E and 22° N–73° N	1950–2005[2]	2006–2100
HadREM3-GA7-05	424 x 412	45° W–65° E and 22° N–73° N	1952–2005[3]	2006–2100
RCA4	424 x 412	45° W–65° E and 22° N–73° N	1970–2005	2006–2100
RegCM4-6	527 x 527	63° W–82° E and 15° N–76° N	1970–2005	2006–2100
REMO2015	424 x 412	52° W–73° E and 21° N–74° N	1950–2005	2006–2100

[1]One run starts from 1950.
[2]Some runs start in 1949 and 1951.
[3]One run ends in 2004 instead of 2005.

Table S2. National IDF-statistics for the Netherlands, Denmark and Finland. Shown are the 10-year return levels (mm) for various rainfall durations.

Country	1 h	3 h	6 h	12 h	24 h	Reference
The Netherlands	31.0	39.8	46.0	52.9	62.9	[1]
Denmark	24.9	33.3	40.2	46.7	55.2	[2]
Finland	22.9	27.0	34.0	44.0	53.0	[3, 4]

Table S3. Temporal-areal reduction factors to convert return levels of d-hourly precipitation extremes of EURO-SUPREME (i.e. 1-h temporal resolution, 0.11° spatial resolution) to return levels of continuous time sliding point maxima. This is taken from [5, Table 2].

$d = 1$ h	$d = 2$ h	$d = 3$ h	$d = 6$ h	$d = 12$ h
1.21	1.09	1.06	1.02	1.01

Table S4. Periods associated with global warming levels of 1.5 °C and 3 °C for the GCM runs in the EURO-CORDEX ensemble [6].

GCM run	+1.5°C period	+3°C period
CNRM-CERFACS-CNRM-CM5-r1i1p1	2015 - 2044	2053 - 2082
ICHEC-EC-EARTH-r12i1p1	2012 - 2041	2052 - 2081
ICHEC-EC-EARTH-r1i1p1[1]	2012 - 2041	
ICHEC-EC-EARTH-r3i1p1	2014 - 2043	2051 - 2080
MOHC-HadGEM2-ES-r1i1p1	2004 - 2033	2037 - 2066
IPSL-IPSL-CM5A-MR-r1i1p1	2008 - 2037	2040- 2069
MPI-M-MPI-ESM-LR-r1i1p1	2014 - 2043	2053 - 2082
MPI-M-MPI-ESM-LR-r2i1p1	2012 - 2041	2051 - 2080
MPI-M-MPI-ESM-LR-r3i1p1	2012 - 2041	2050 - 2079
NCC-NorESM1-M-r1i1p1	2017 - 2046	2058 - 2087

[1]For ICHEC-EC-EARTH-r1i1p1, the 3ºC period is missing, resulting in 33 usable model runs
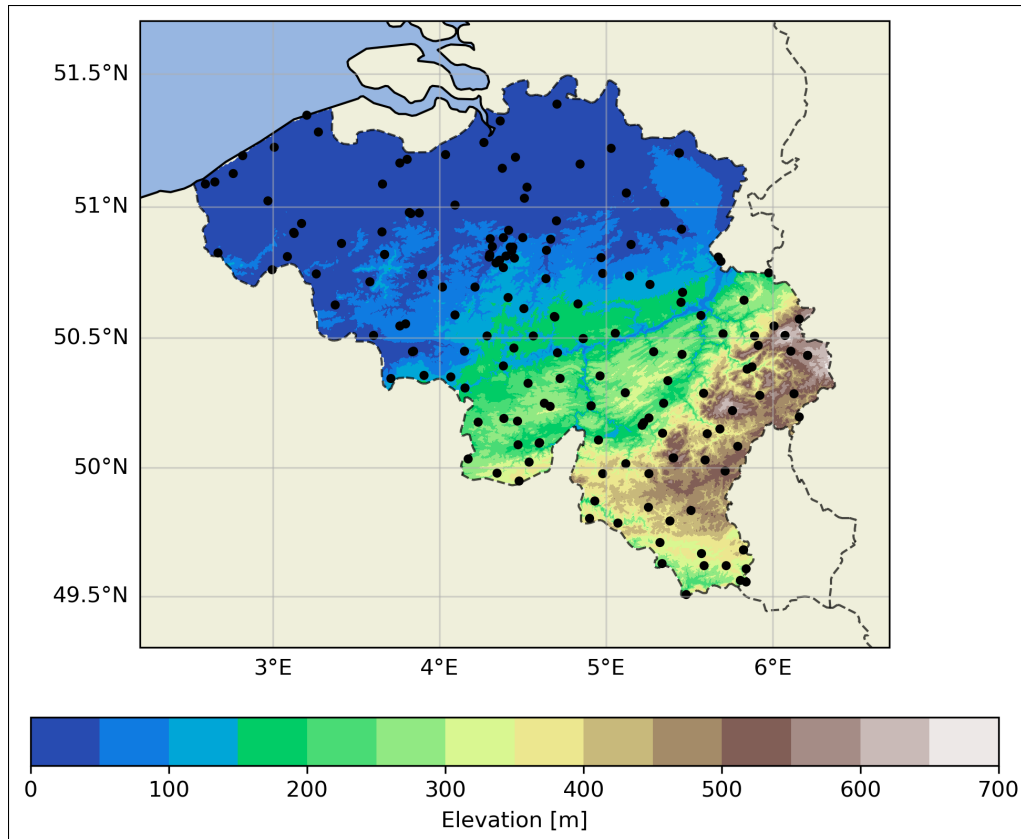
Fig. S1. Elevation map of Belgium (m), toghether with the locations of the (sub-)hourly precipitation stations.

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