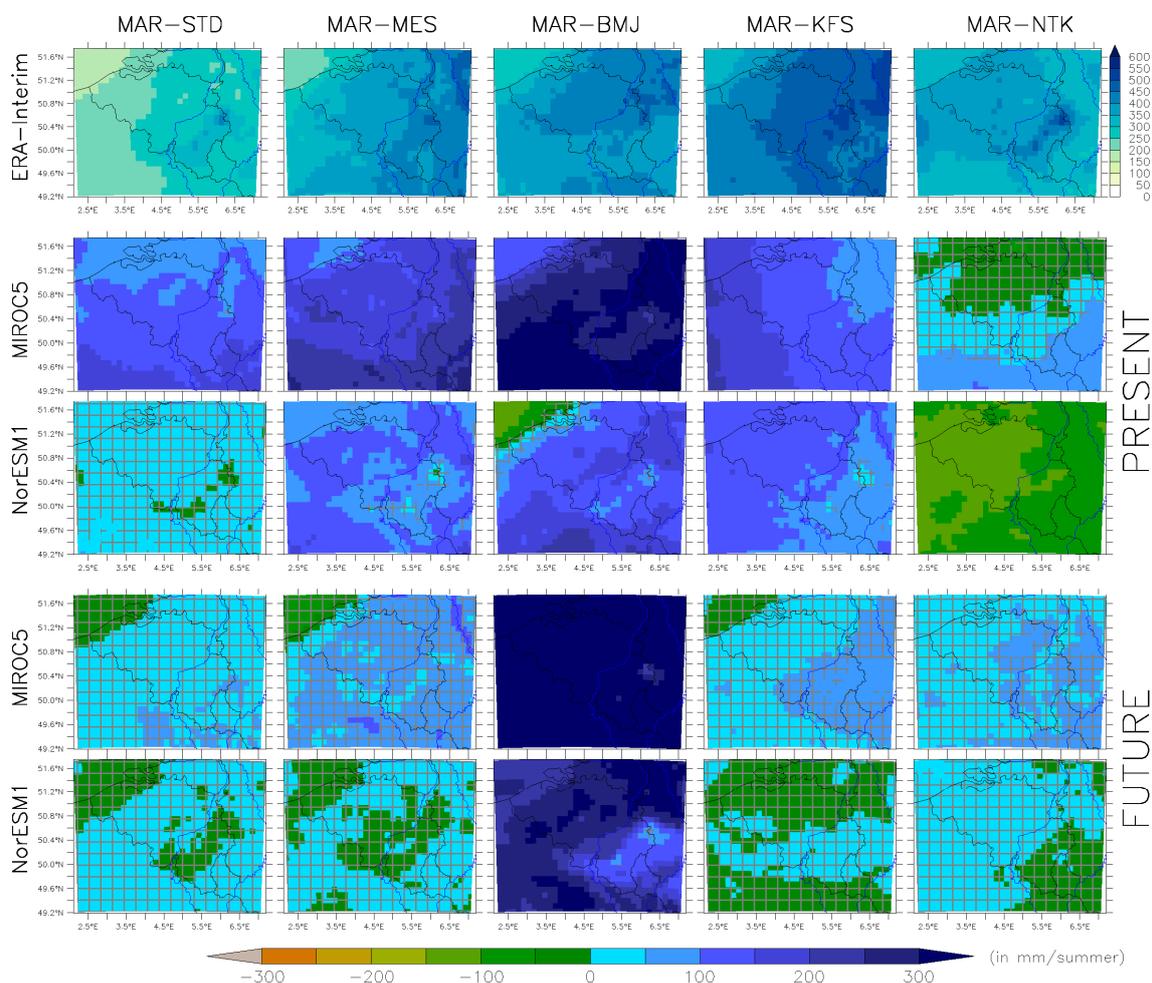


**Supplementary materials**


**Figure S1. ERA-Interim:** Mean summer (JJA) precipitation (in mm/summer) over 1987-2017 simulated by MAR forced by ERA-Interim for each experiment. **PRESENT:** Anomalies (in mm/summer) between the mean summer precipitation over 1987-2017 simulated by MAR forced by MIROC5 and NorESM1-M compared to MAR-ERA for each convective scheme. **FUTURE:** Future changes (in mm/summer) between the mean summer precipitation over 2070-2100 simulated by MAR forced by MIROC5 and by NorESM1-M with RCP8.5 scenario compared to MAR forced by MIROC5 and by NorESM1-M over 1987-2017 for each convective scheme. Cross-hatched pixels indicate that values are statistically non-significant.

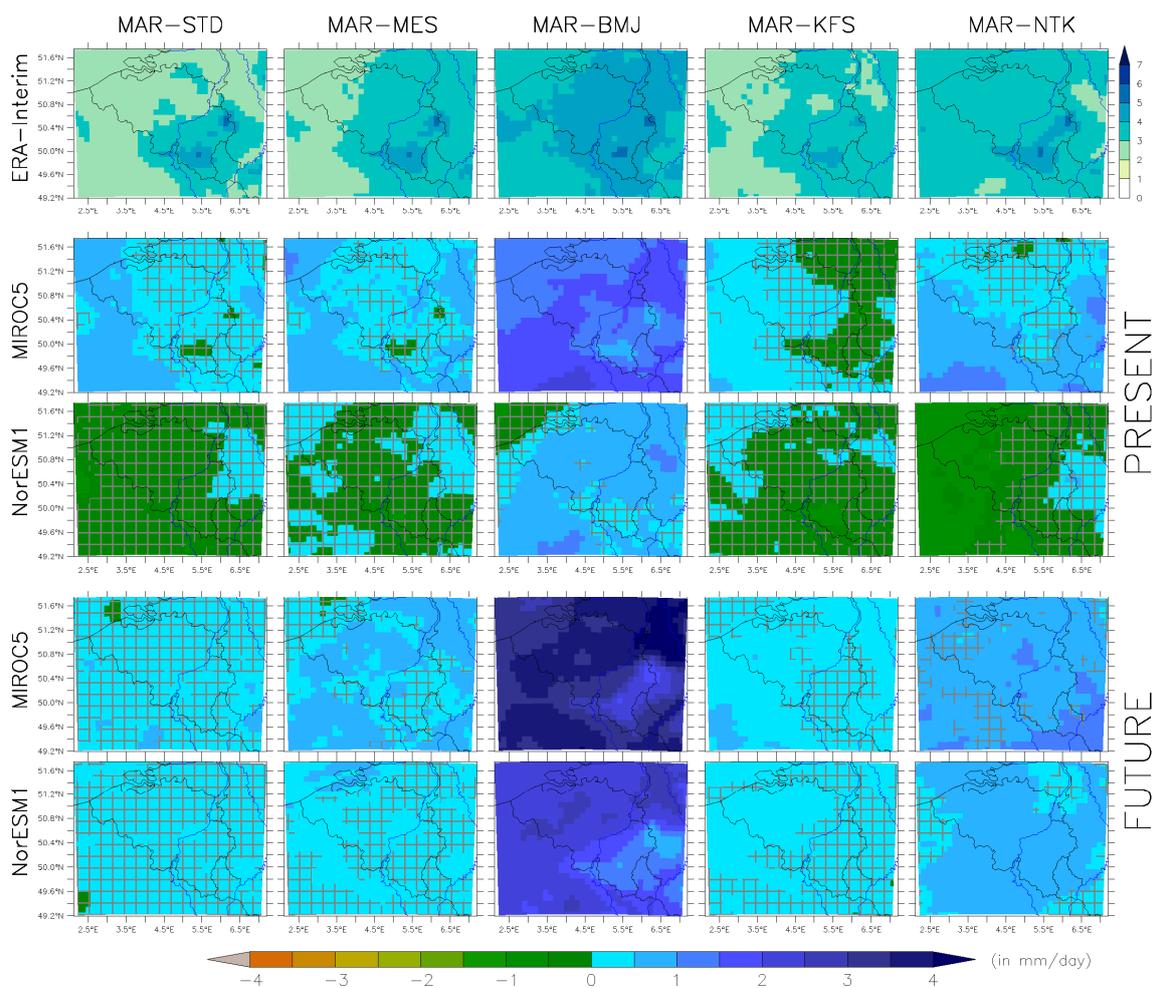


Figure S2. Idem as Figure S1 but for the standard deviation of daily precipitation in mm/day.

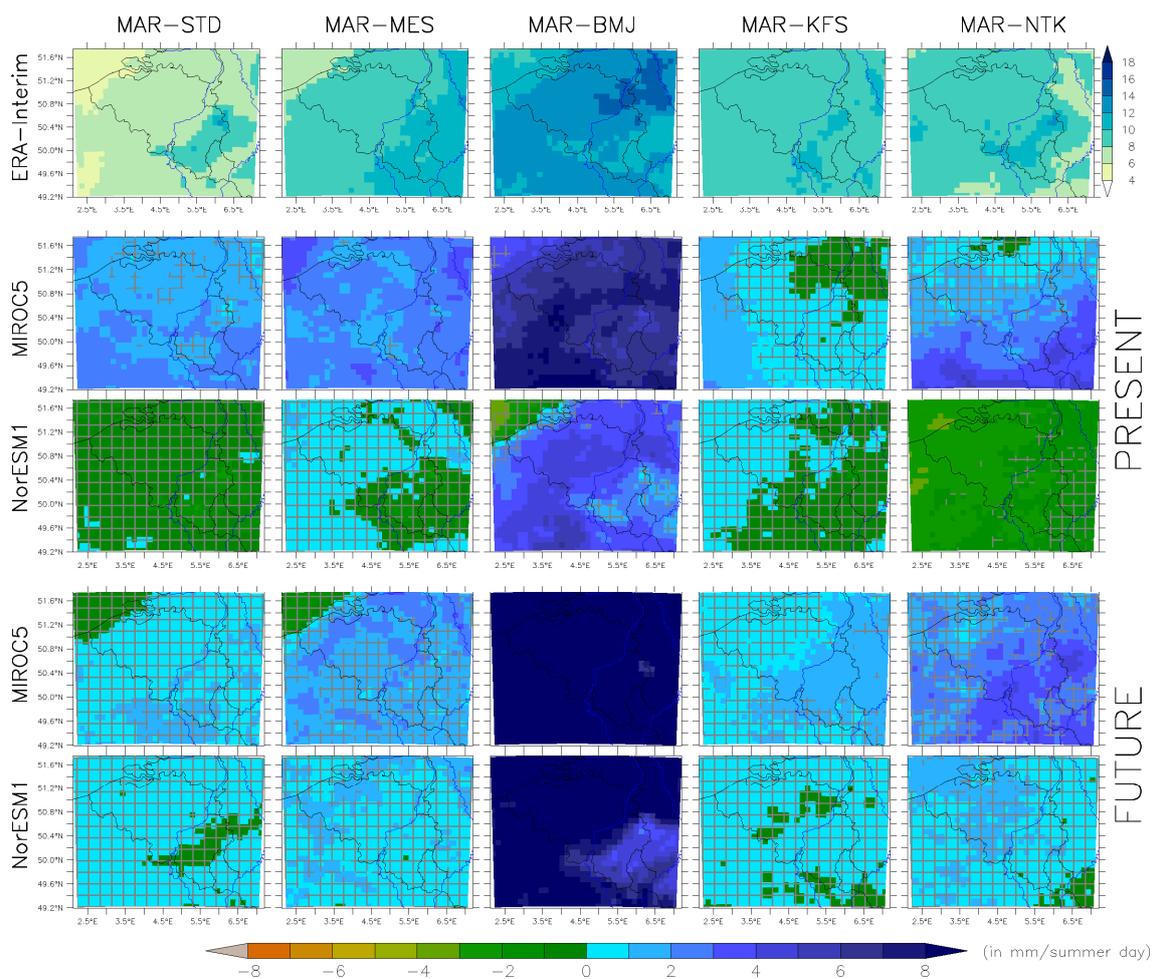
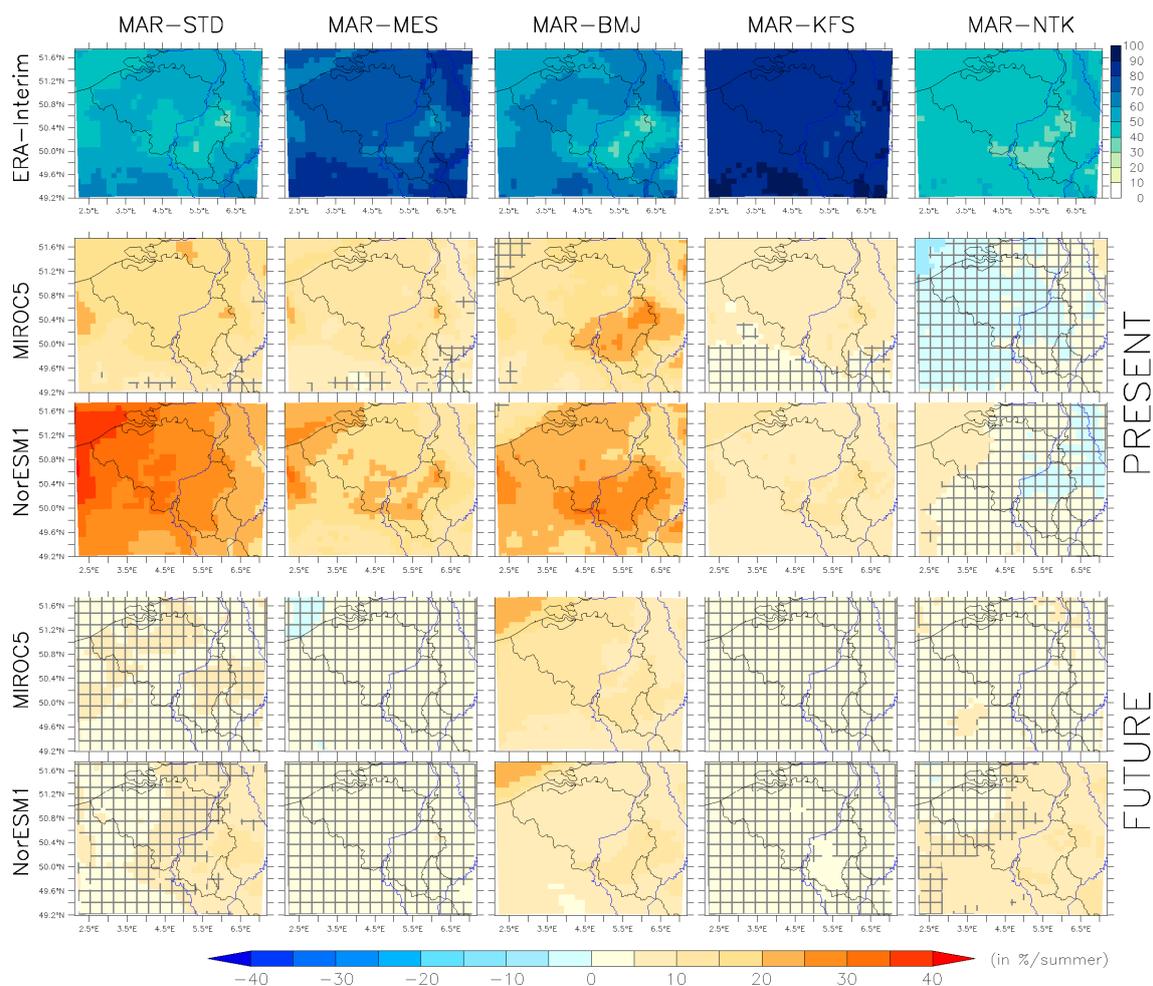


Figure S3. Idem as Figure S1 but for the 95<sup>th</sup> percentile of daily precipitation in mm/day.



**Figure S4.** Idem as Figure S1 but for the ratio between convective precipitation and total precipitation in %/summer.

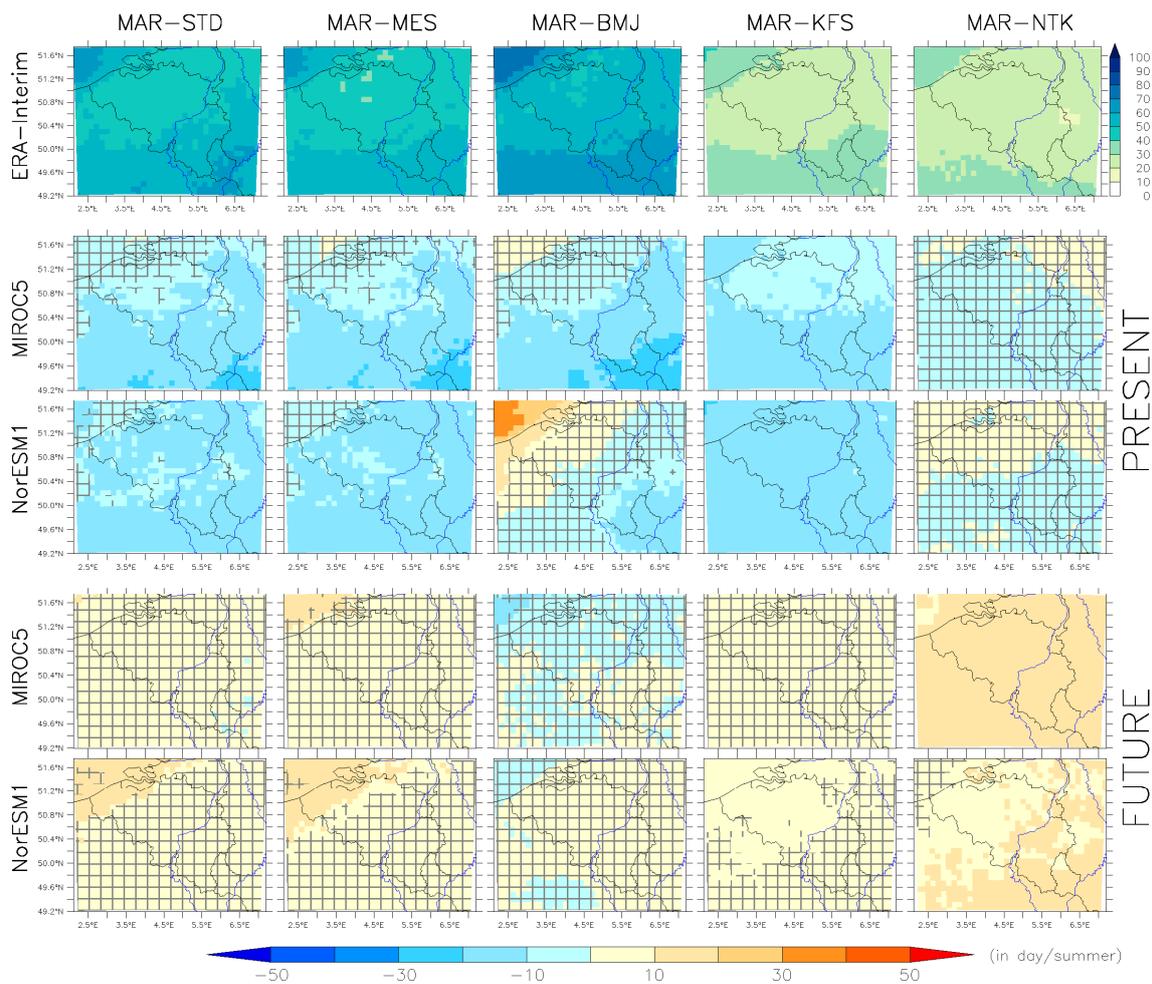
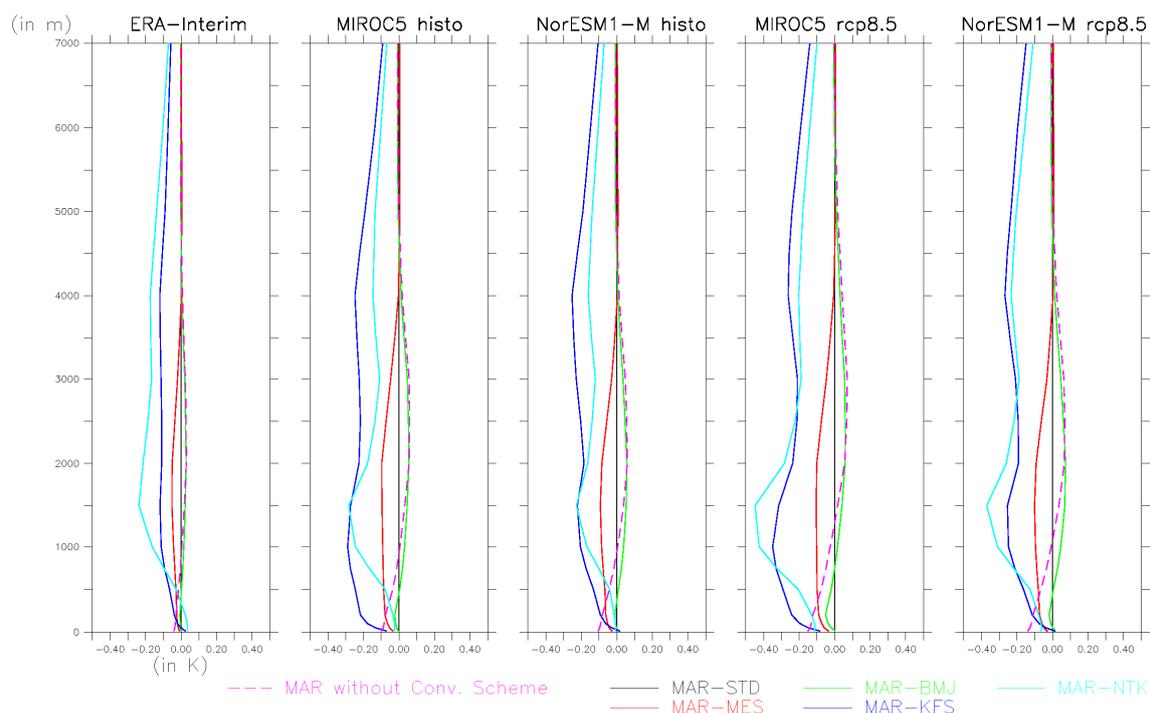


Figure S5. Idem as Figure S1 but for the summer mean of dry day (day with none precipitation) in day/summer.



**Figure S6.** Anomalies of annual mean specific humidity profiles (in g/kg) between all MAR experiments and the MAR-STD experiment between the surface and 7000m height.



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