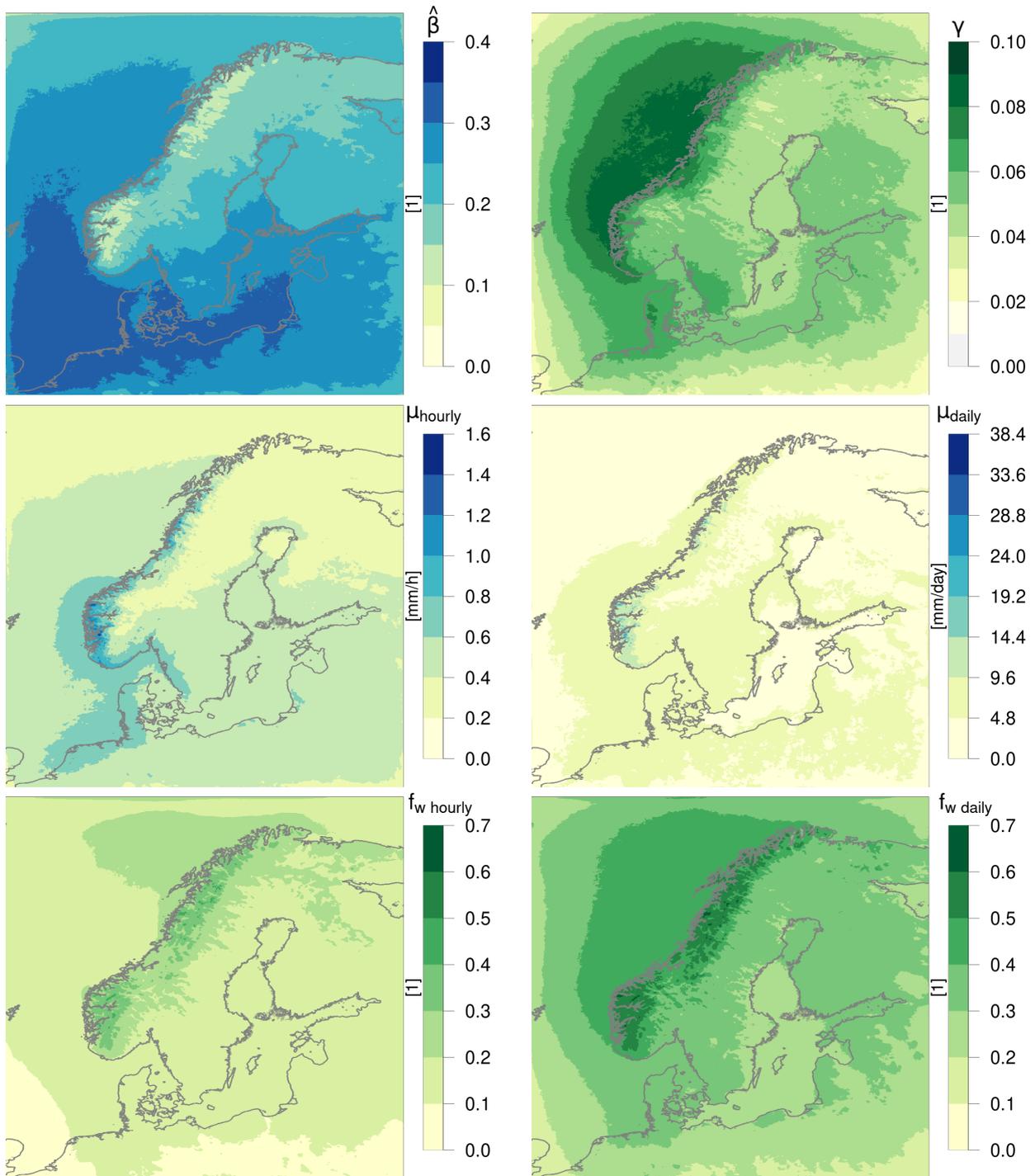


# Supplementary information to *Simulated temporal scaling dependencies in sub-daily precipitation*

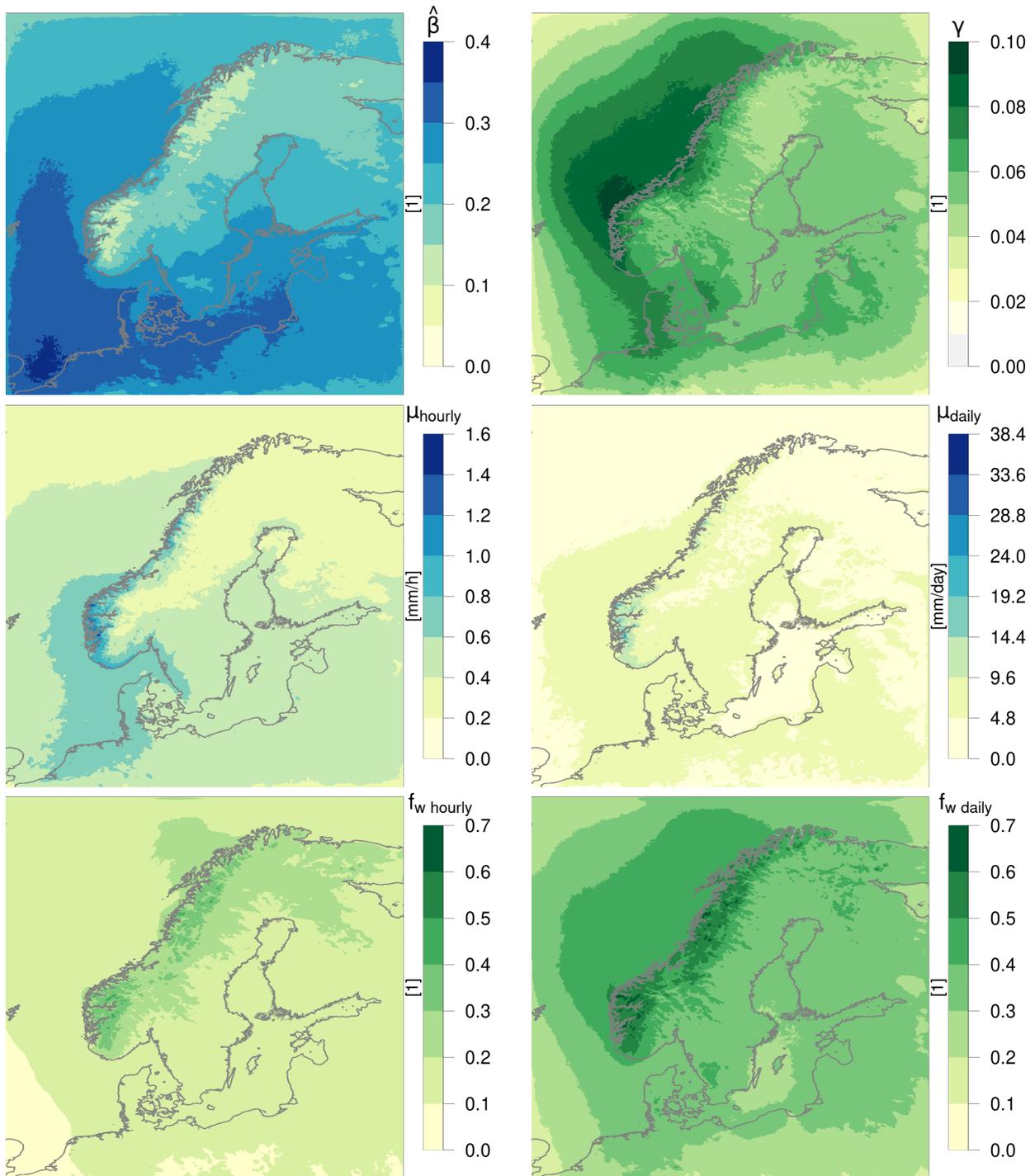
Andreas Dobler<sup>1</sup>, Rasmus Benestad<sup>1</sup>, Julia Lutz<sup>1</sup>, and Kajsa M. Parding<sup>1</sup>

<sup>1</sup>The Norwegian Meteorological institute, Henrik Mohns plass 1, 0313 Oslo, Norway

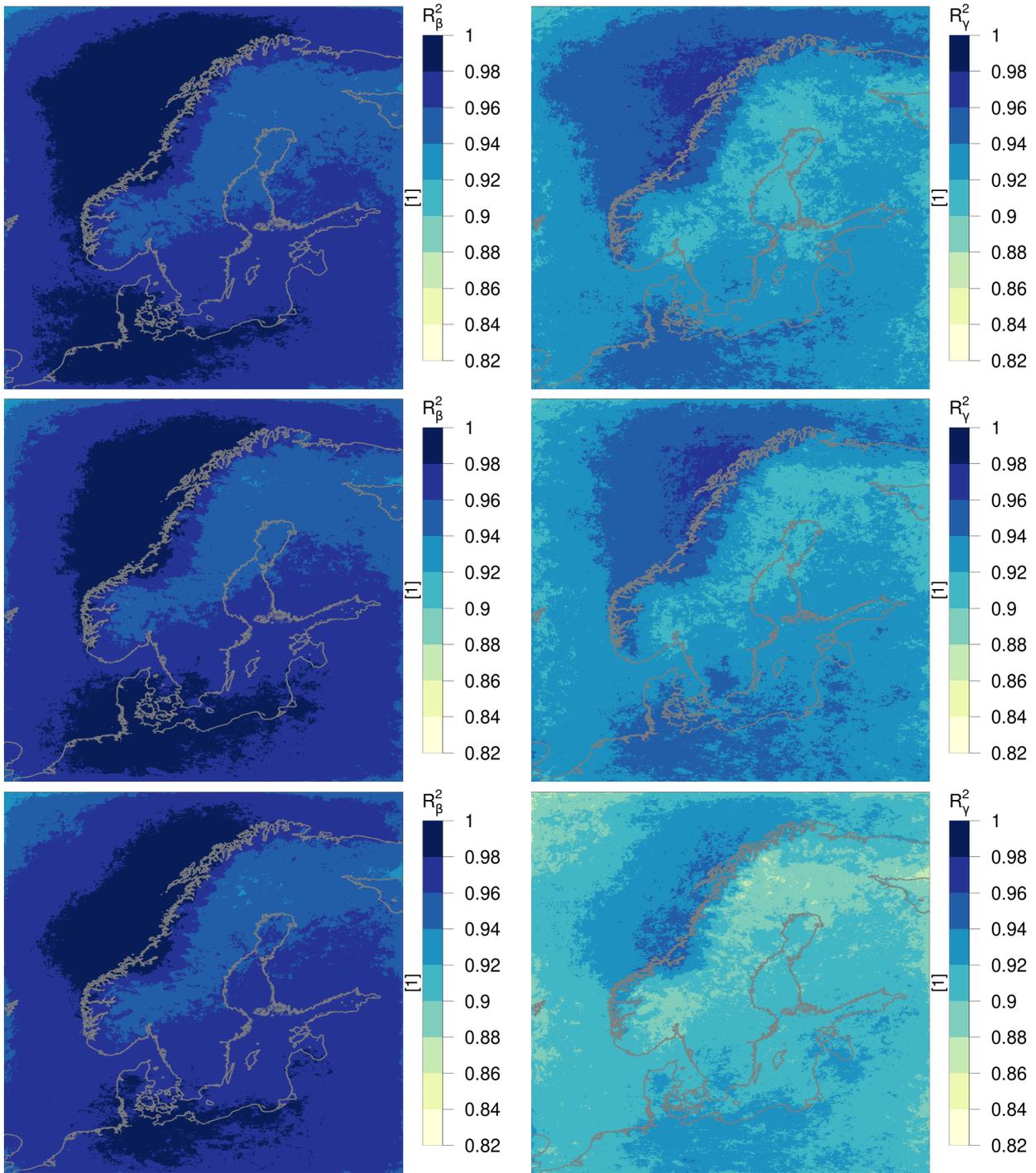
**Correspondence:** Andreas Dobler (andreas.dobler@met.no)



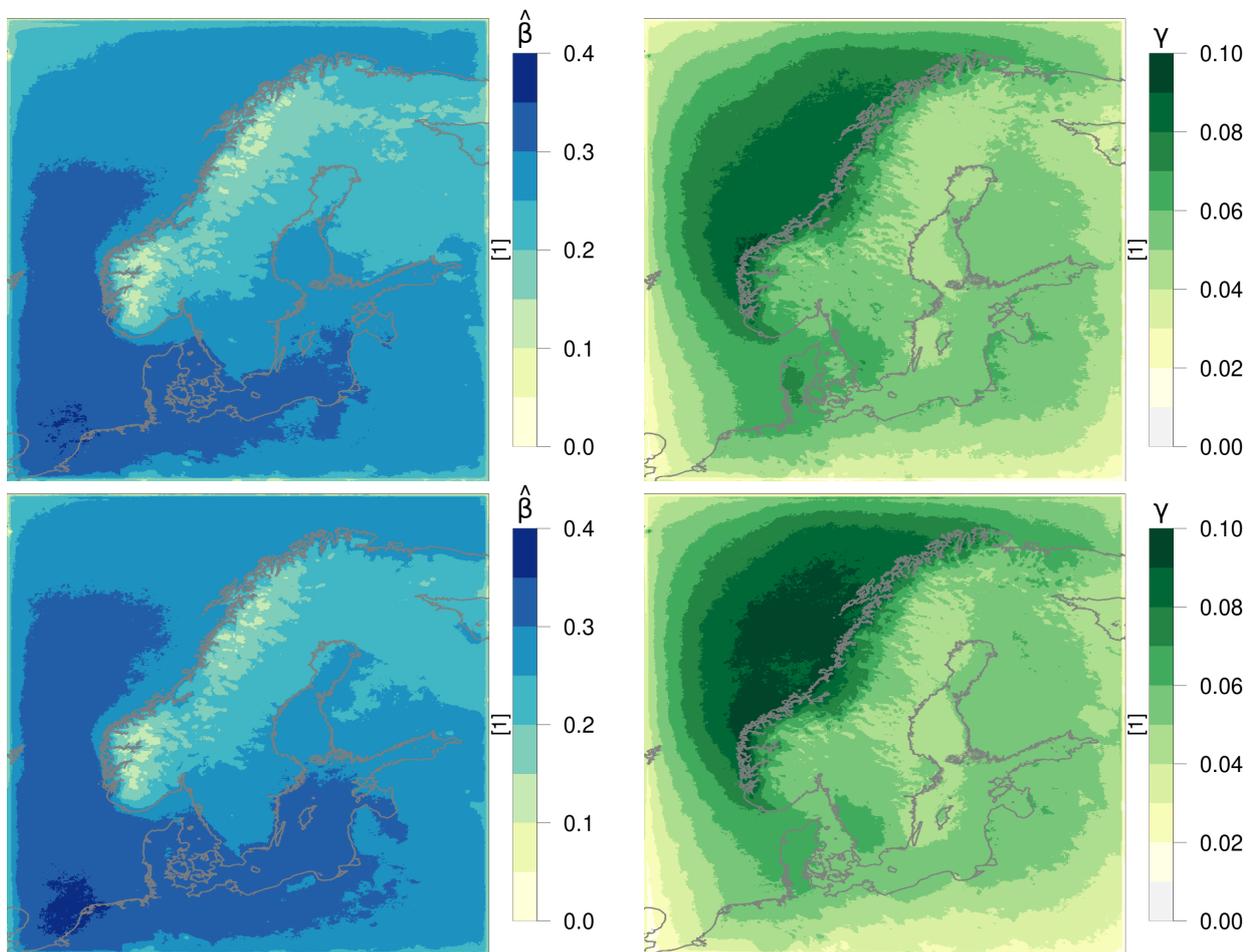
**Figure S1.** Estimates of parameters  $\hat{\beta}$ ,  $\gamma$ , hourly wet-spell intensity, daily wet-spell intensity, hourly wet-spell frequency and daily wet-spell frequency from the HCLIM simulations for the current climate driven by the EC-EARTH global climate model.



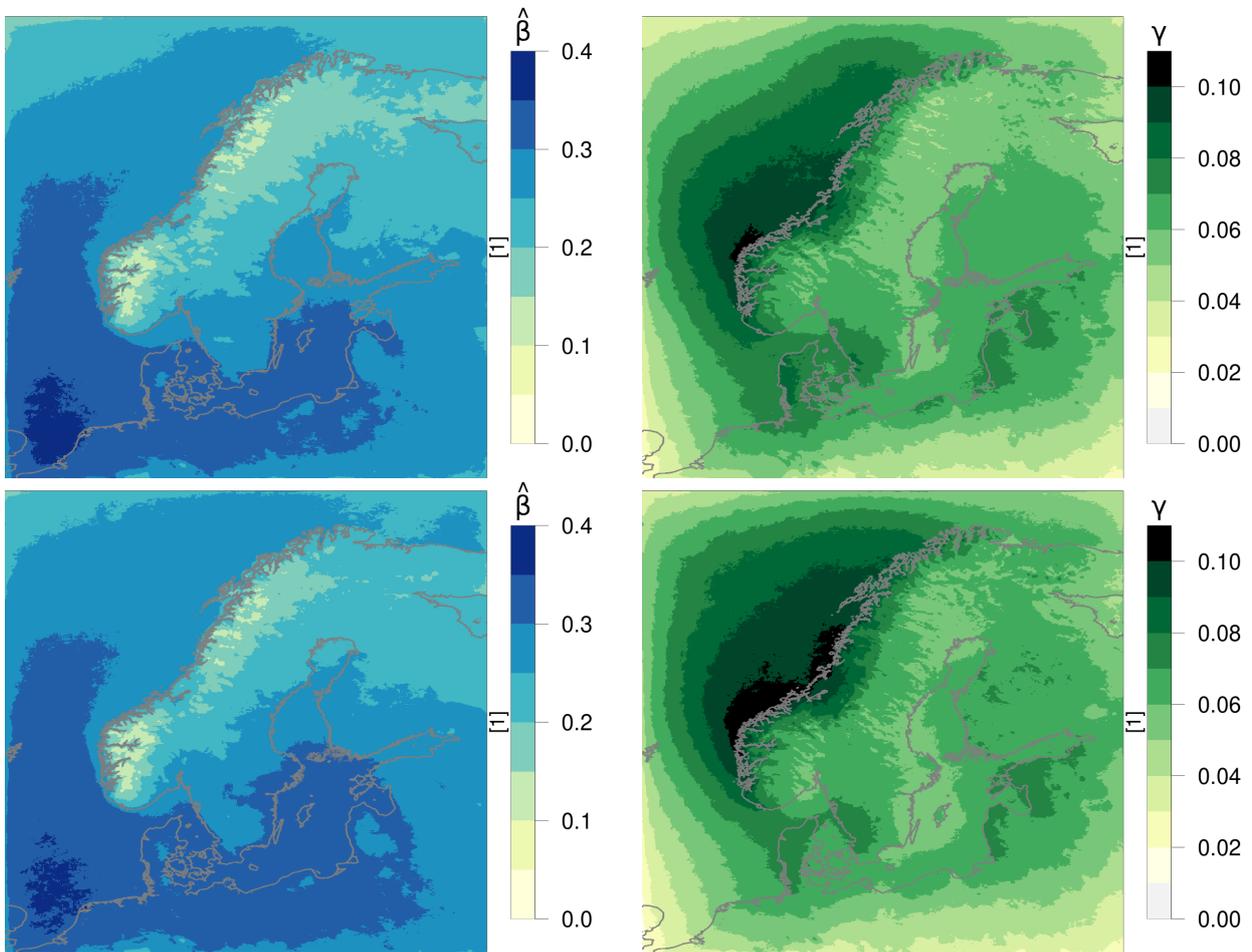
**Figure S2.** Estimates of parameters  $\hat{\beta}$ ,  $\gamma$ , hourly wet-spell intensity, daily wet-spell intensity, hourly wet-spell frequency and daily wet-spell frequency from the HCLIM simulations for the current climate driven by the GFDL-CM3 global climate model.



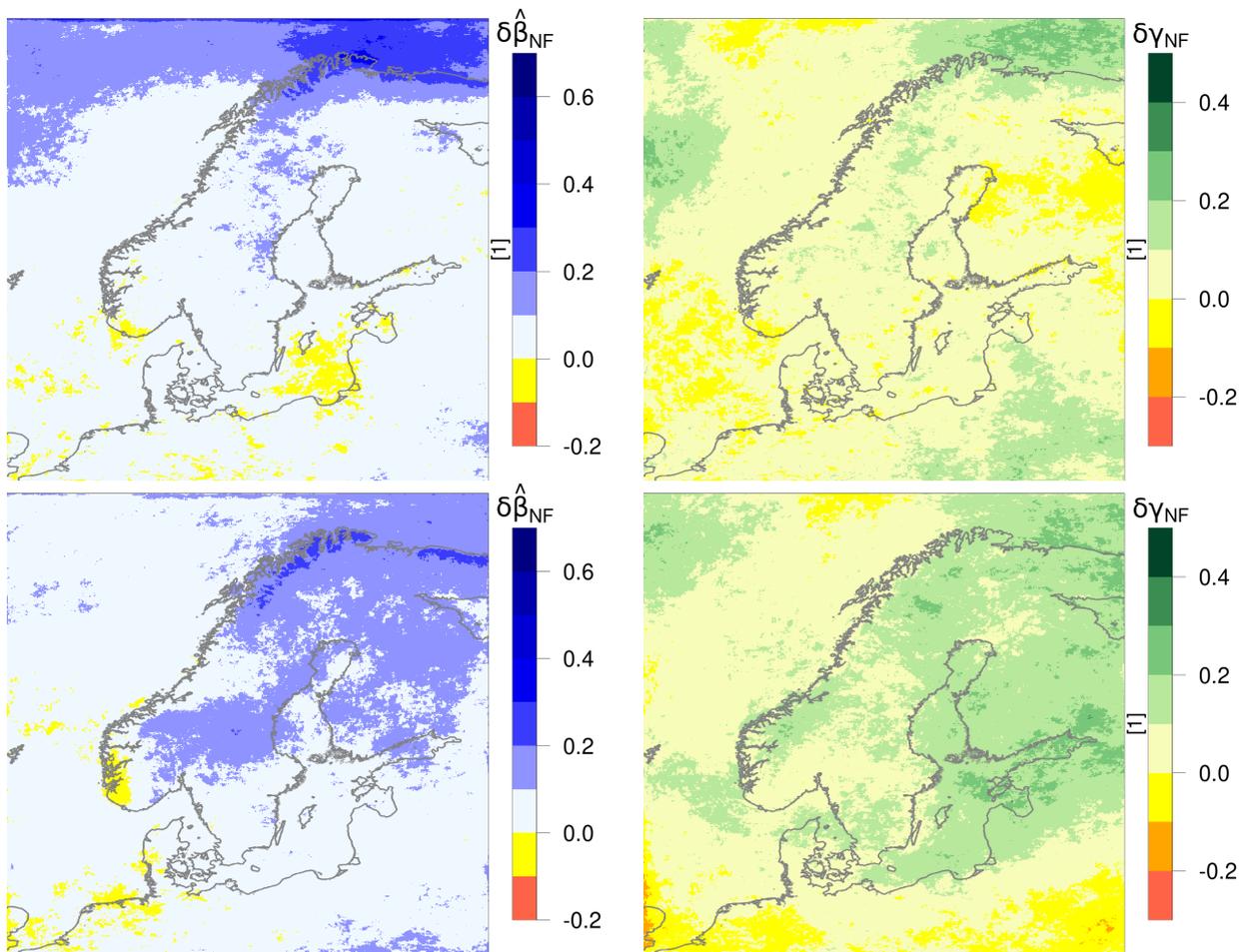
**Figure S3.**  $R^2$  estimates of the linear fits from the HCLIM simulation for the current climate driven by ERA-Interim (top), EC-EARTH (middle) and GFDL-CM3.



**Figure S4.** Estimates of  $\hat{\beta}$  and  $\gamma$  for the EC-EARTH driven HCLIM simulation for the near future (2041–2060, top) and far future (2081–2100, bottom) following RCP8.5.



**Figure S5.** As Fig. S4, but for the GFDL-CM3 driven HCLIM simulation. Note the additional color for  $\gamma$  values over 0.1 in the GFDL-CM3 driven HCLIM simulation.



**Figure S6.** Relative changes in  $\hat{\beta}$  (left) and  $\gamma$  (right) for the EC-EARTH (top) and GFDL-CM3 (bottom) driven HCLIM simulation for the near future period 2041–2060 following RCP8.5.