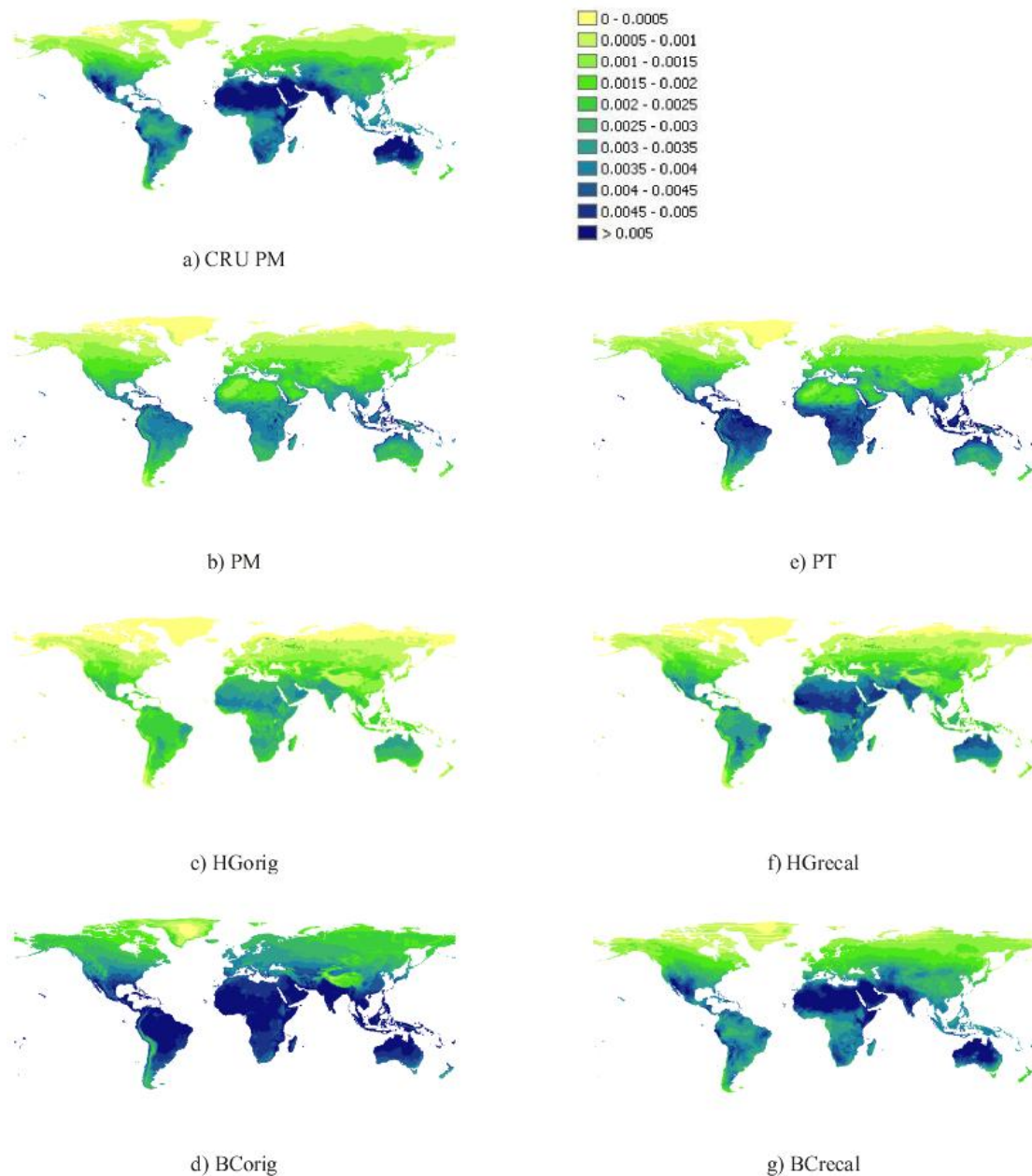
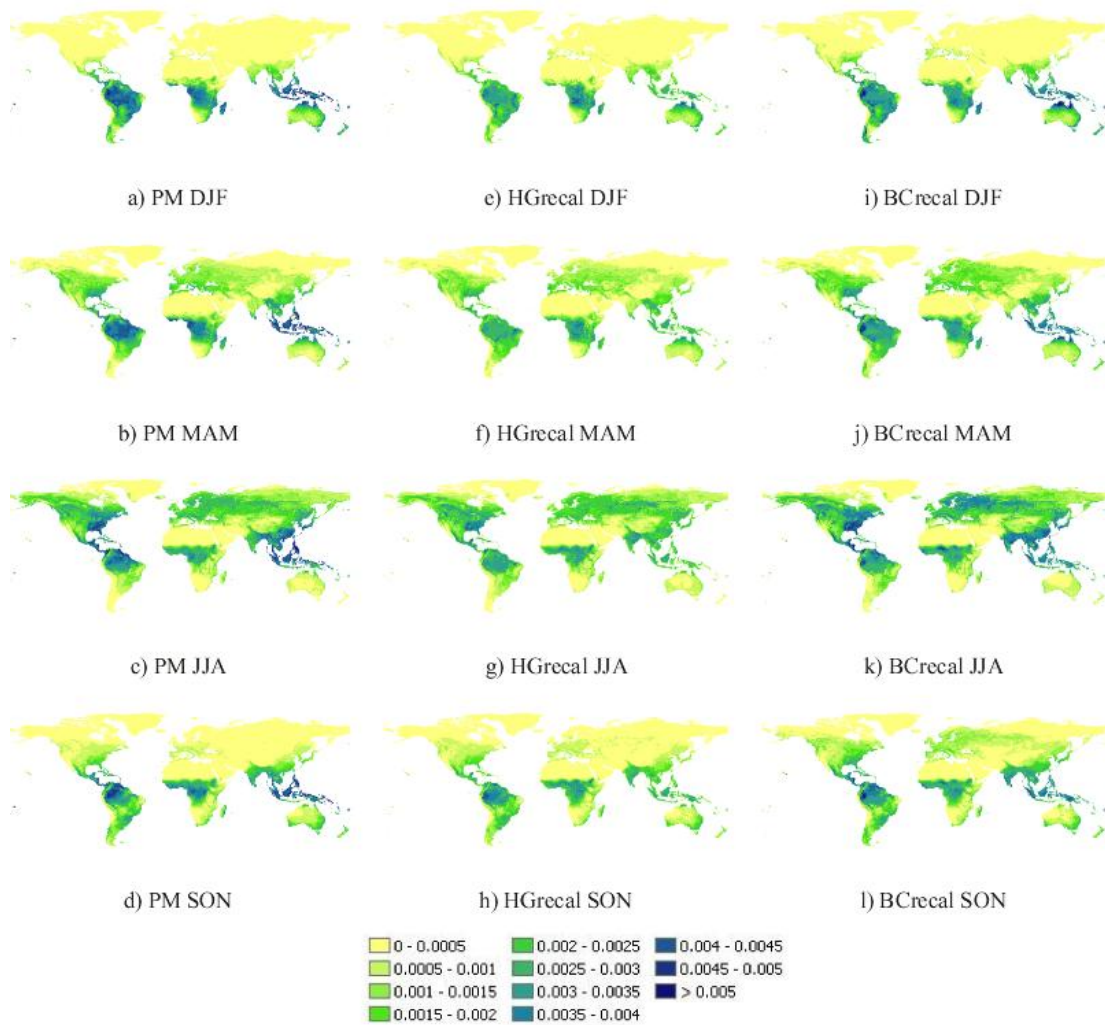


1 **Supplementary material**



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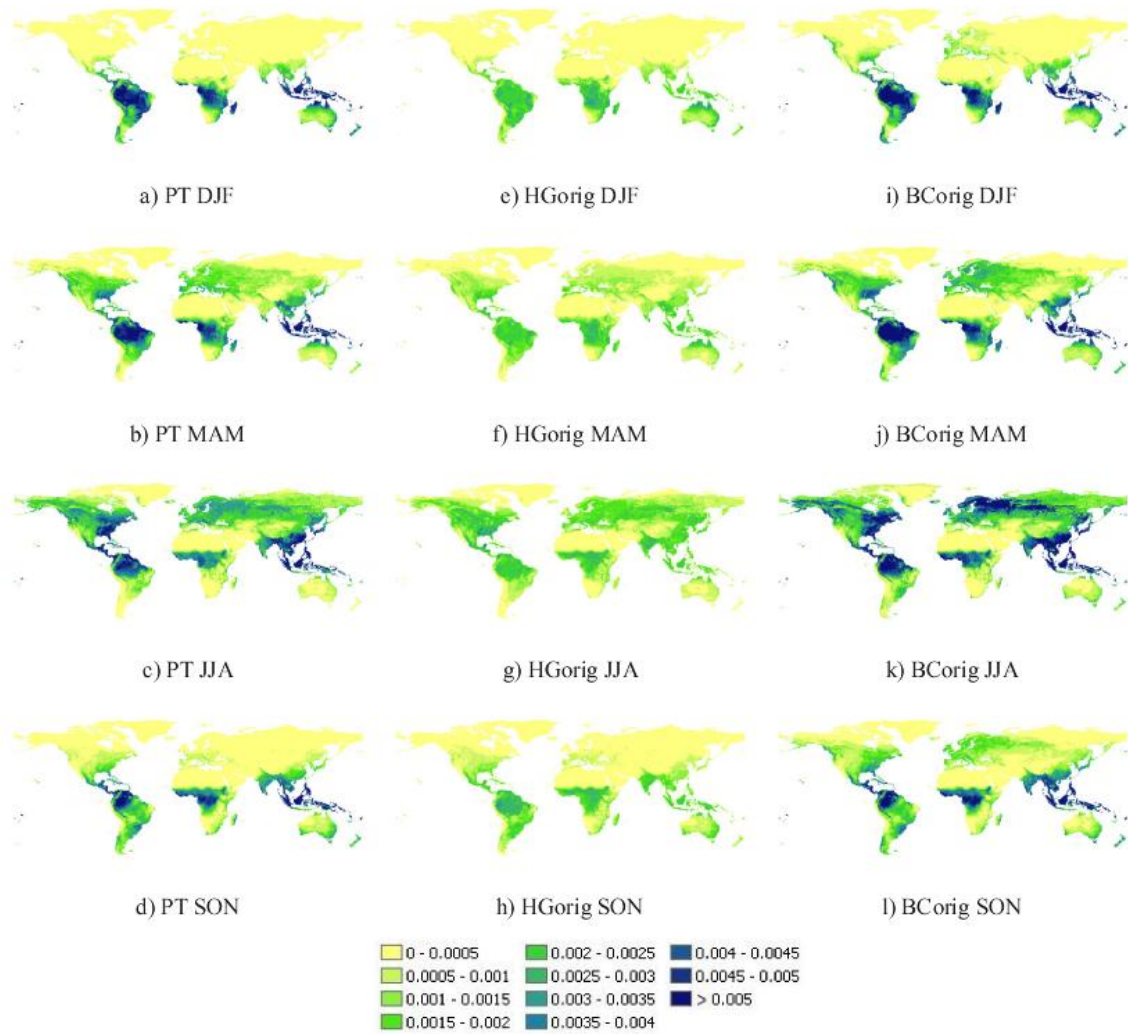
2 Figure A: Global maps with annual average reference potential evaporation (PET; m
 3 day⁻¹). On top annual average CRU Penman-Monteith reference PET. In the right
 4 column reference PET obtained with the Penman-Monteith (PM), the standard
 5 Hargreaves (HGorig) and Blaney-Criddle (BCorig) and in the right column reference
 6 PET obtained with Priestley-Taylor (PT), Hargreaves with increased multiplication
 7 factor (HGrecal) and the re-calibrated Blaney-Criddle equation (BCrecal) are
 8 displayed.



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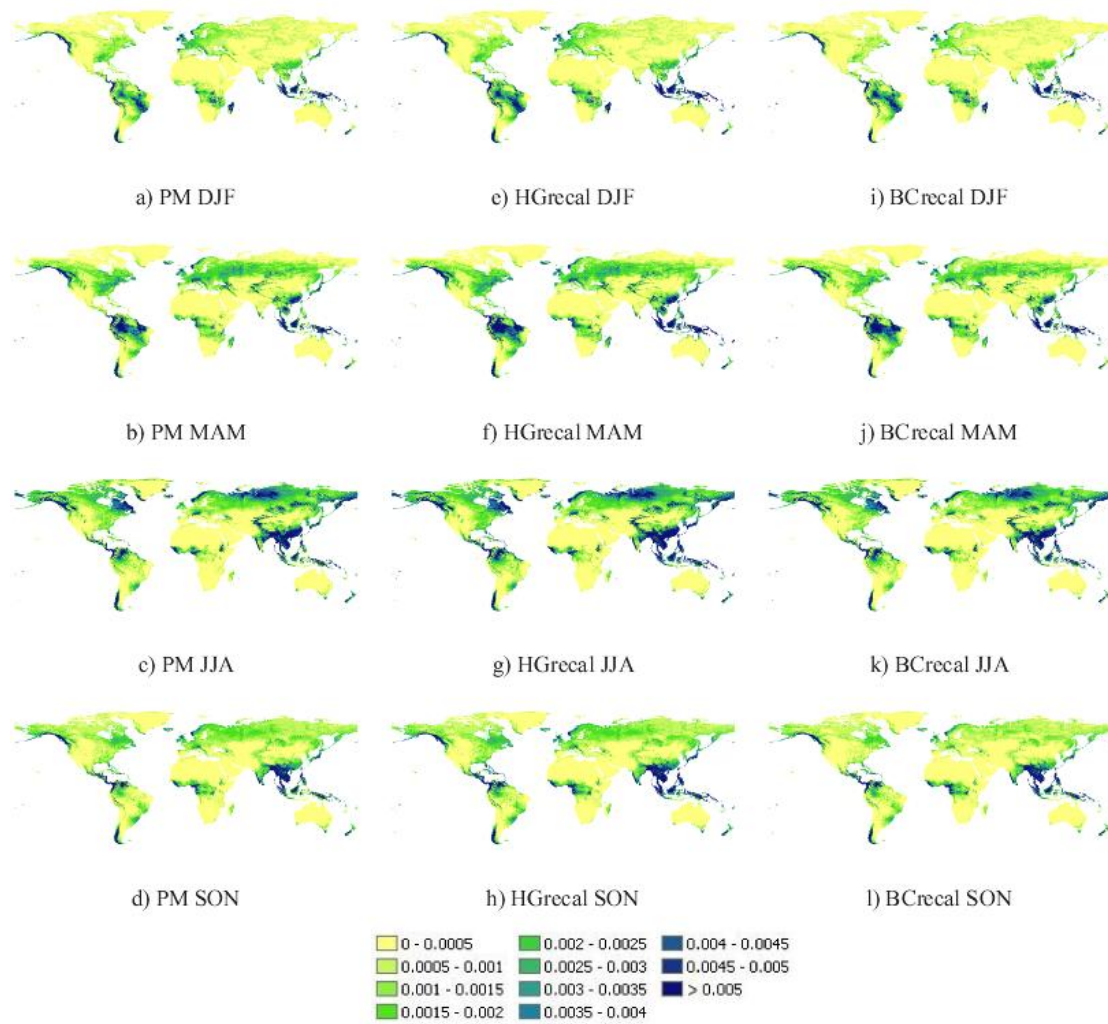
Figure B.1: Global maps with seasonal average daily actual evapotranspiration (m day^{-1}). From left to right Penman-Monteith (PM), Hargreaves with increased multiplication factor (HGrecal) and re-calibrated Blaney-Cridle (BCrecal) and from top to bottom the DJF, MAM, JJA and SON seasons.

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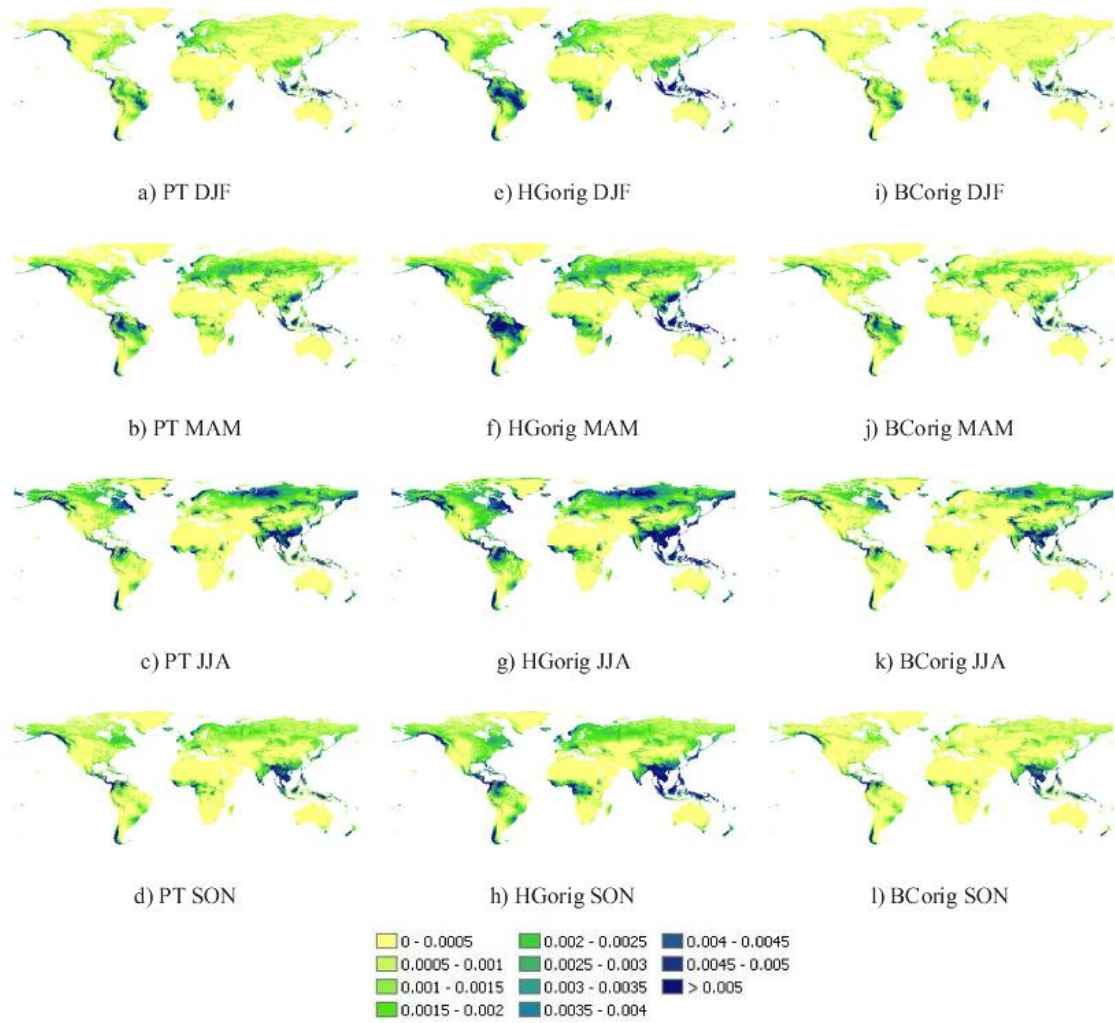
3 Figure B.2: Global maps with seasonal average daily actual evapotranspiration (m
4 day^{-1}). From left to right Priestley-Taylor (PT), the original Hargreaves equation
5 (HGorig) and the original Blaney-Criddle equation (BCorig) and from top to bottom
6 the DJF, MAM, JJA and SON seasons.



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2 Figure C.1: Global maps with seasonal average daily cell specific runoff (m day^{-1}).
 3 From left to right Penman-Monteith (PM), Hargreaves with increased multiplication
 4 factor (HGrecal) and re-calibrated Blaney-Criddle (BCrecal) and from top to bottom
 5 the DJF, MAM, JJA and SON seasons.

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3 Figure C.2: Global maps with seasonal average daily cell specific runoff (m day^{-1}).
4 From left to right Priestley-Taylor (PT), the original Hargreaves equation (HGorig)
5 and the original Blaney-Criddle equation (BCorig) and from top to bottom the DJF,
6 MAM, JJA and SON seasons.