

Figure S1. Vegetation maps used in the GRASS and FOREST simulations. NET = needleleaf evergreen trees; BDT = broadleaf deciduous trees.

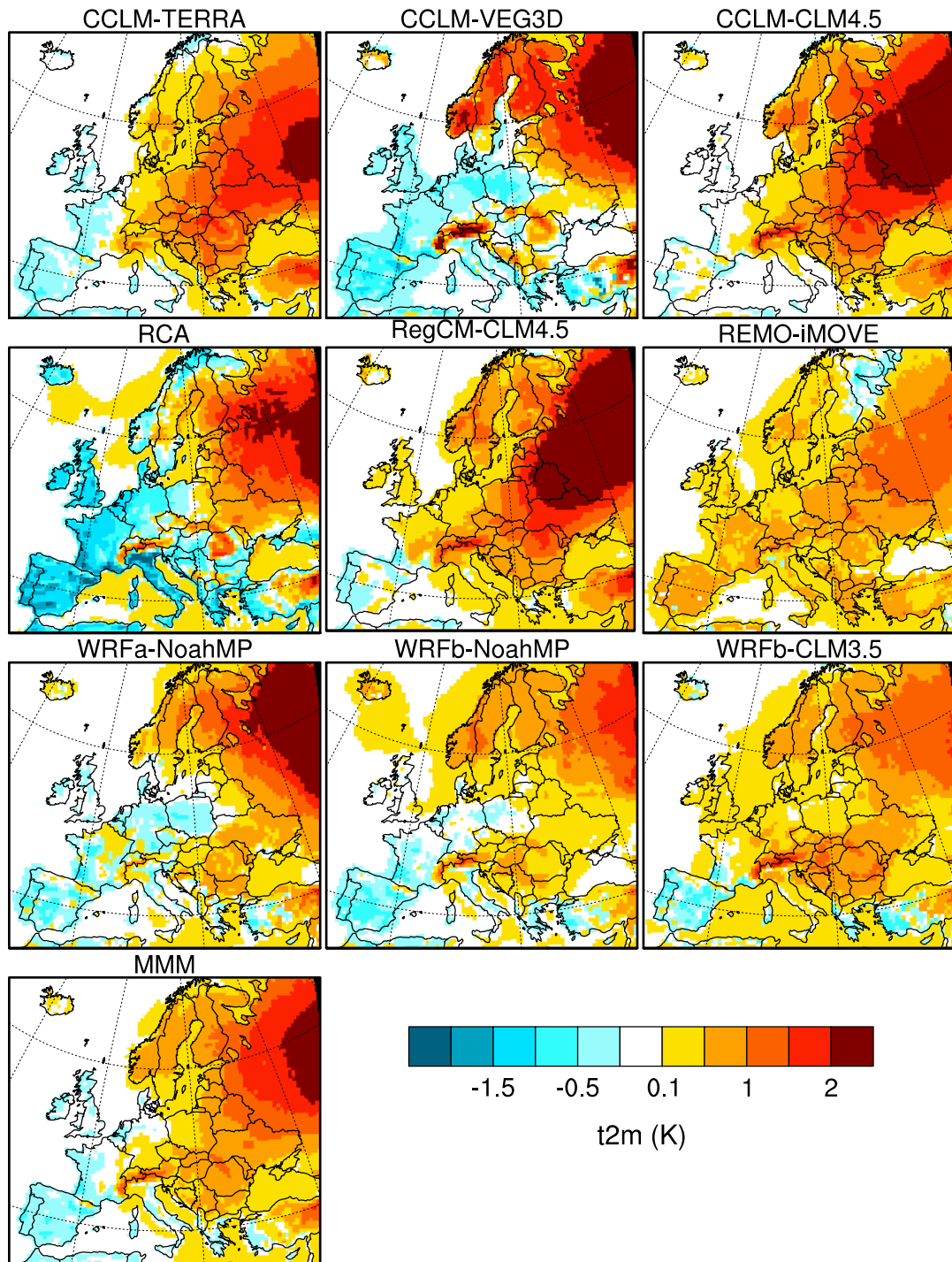
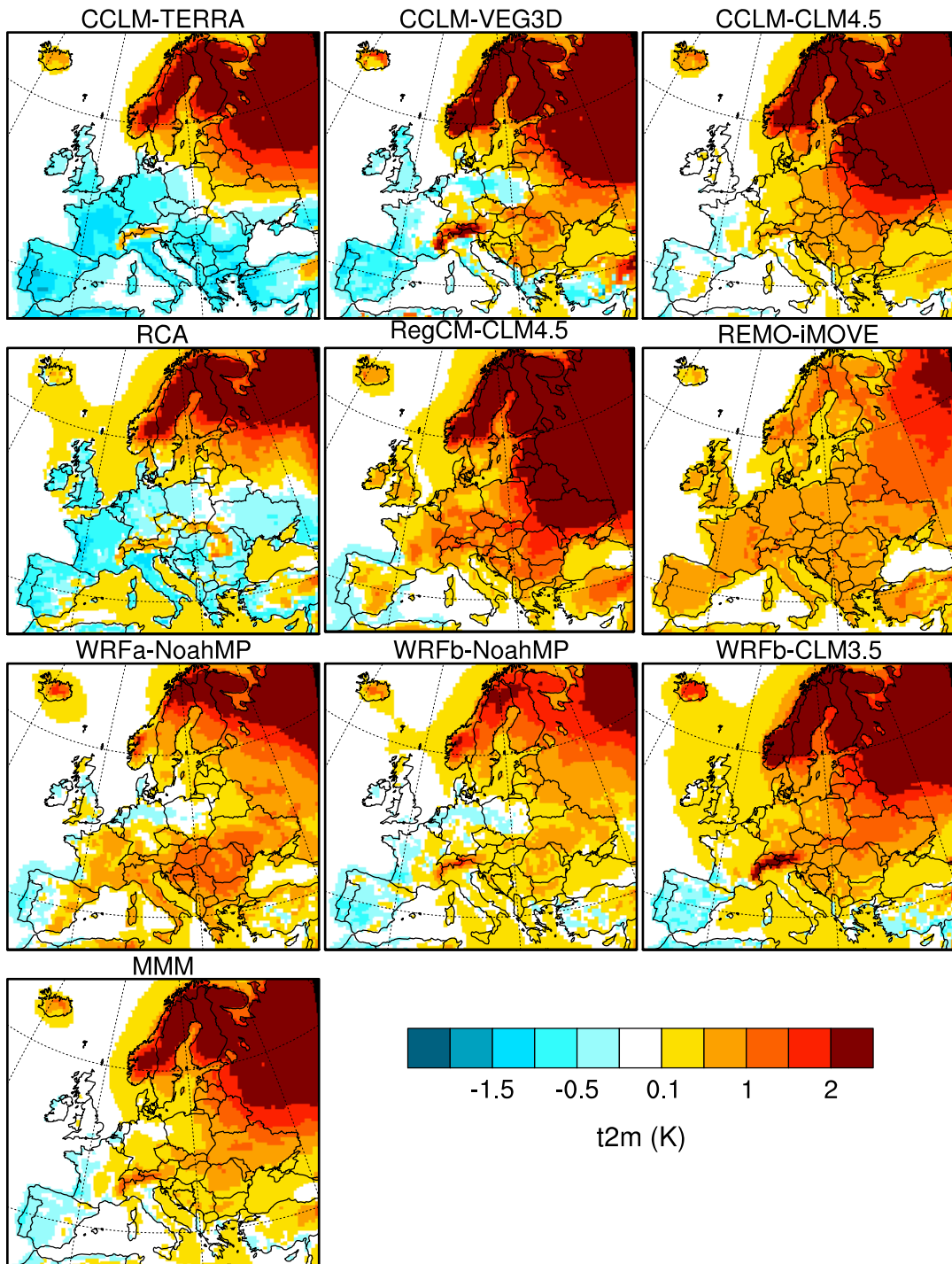
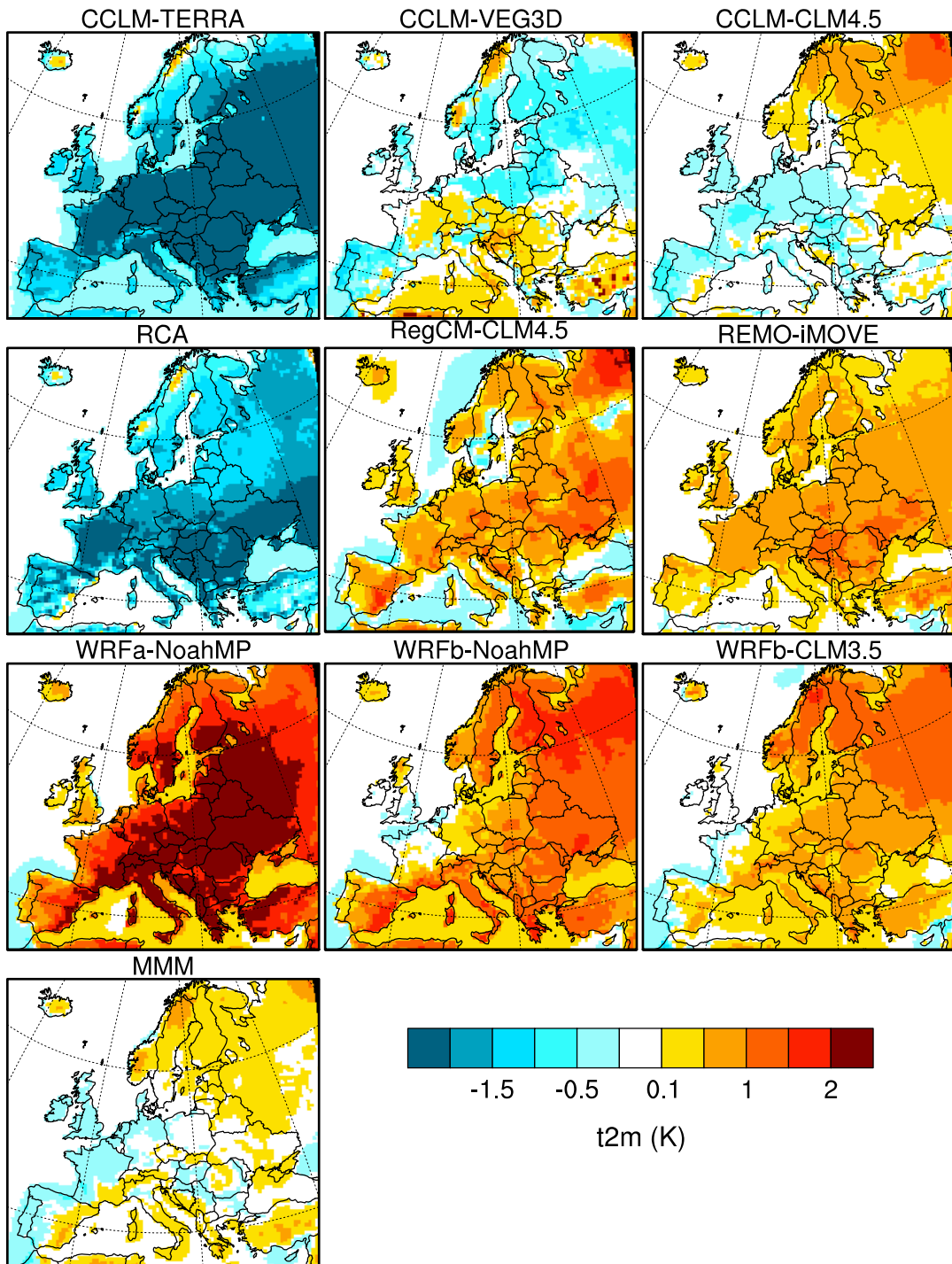
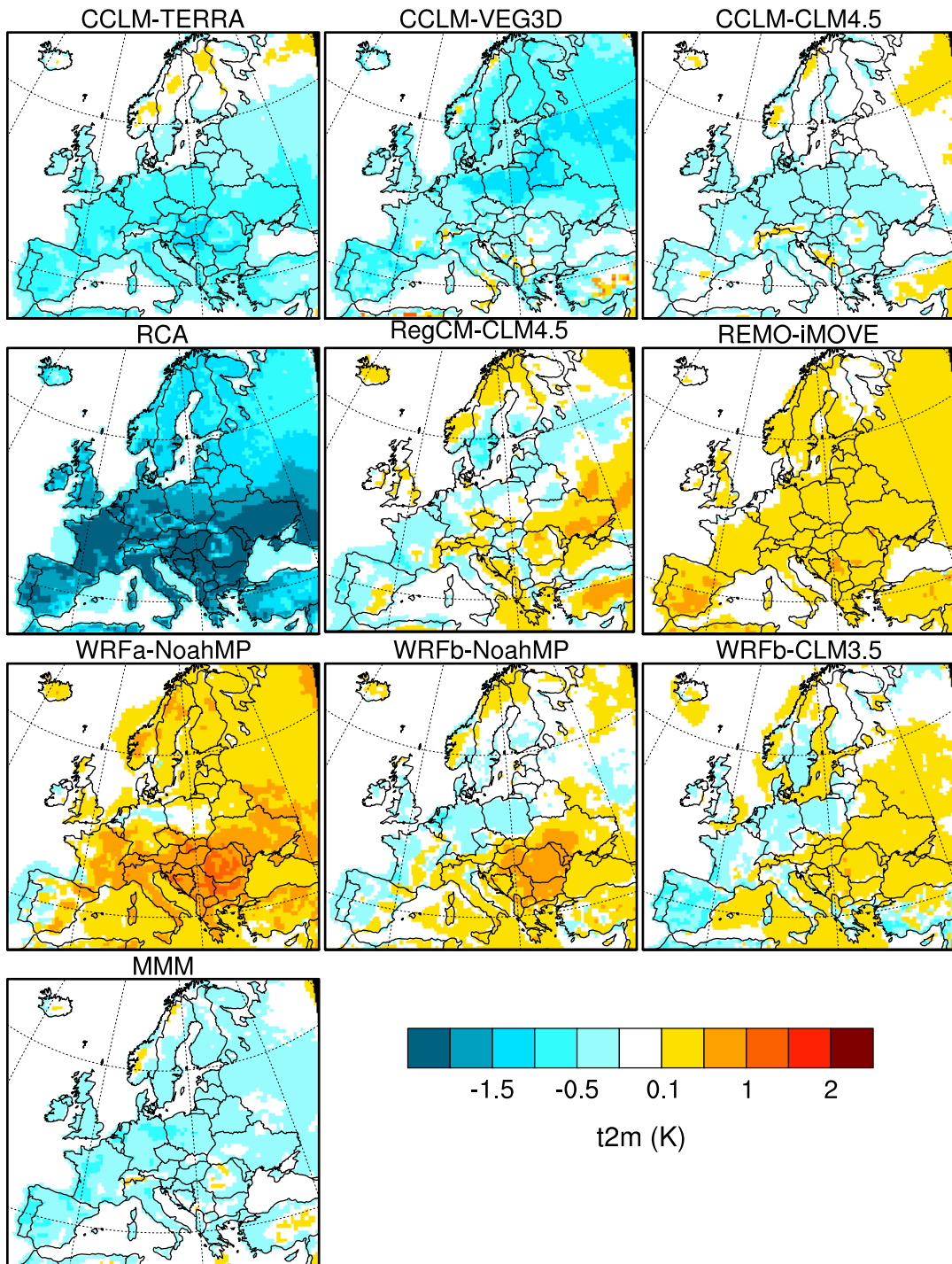


Figure S2. 2-metre temperature (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM





SON

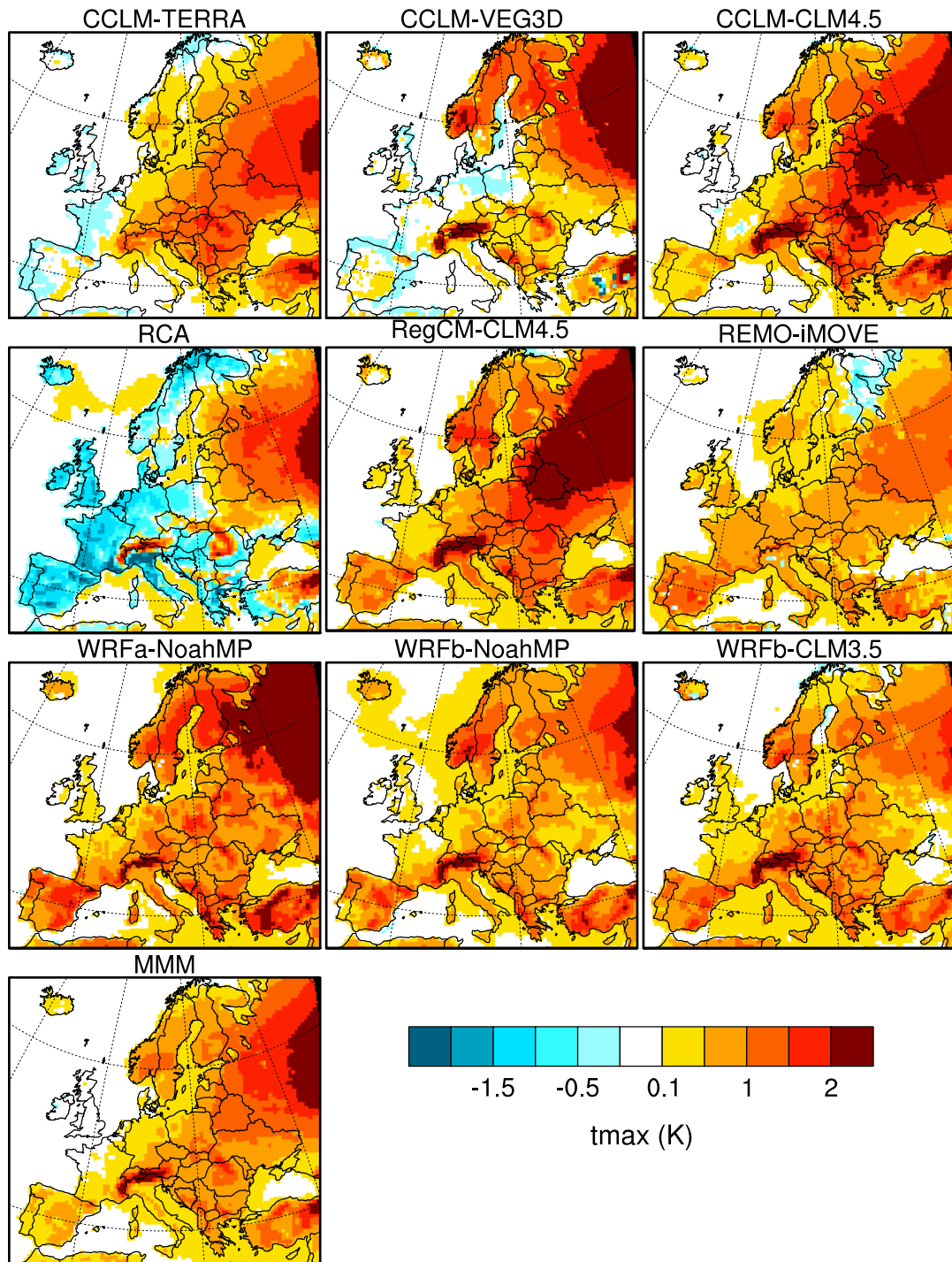
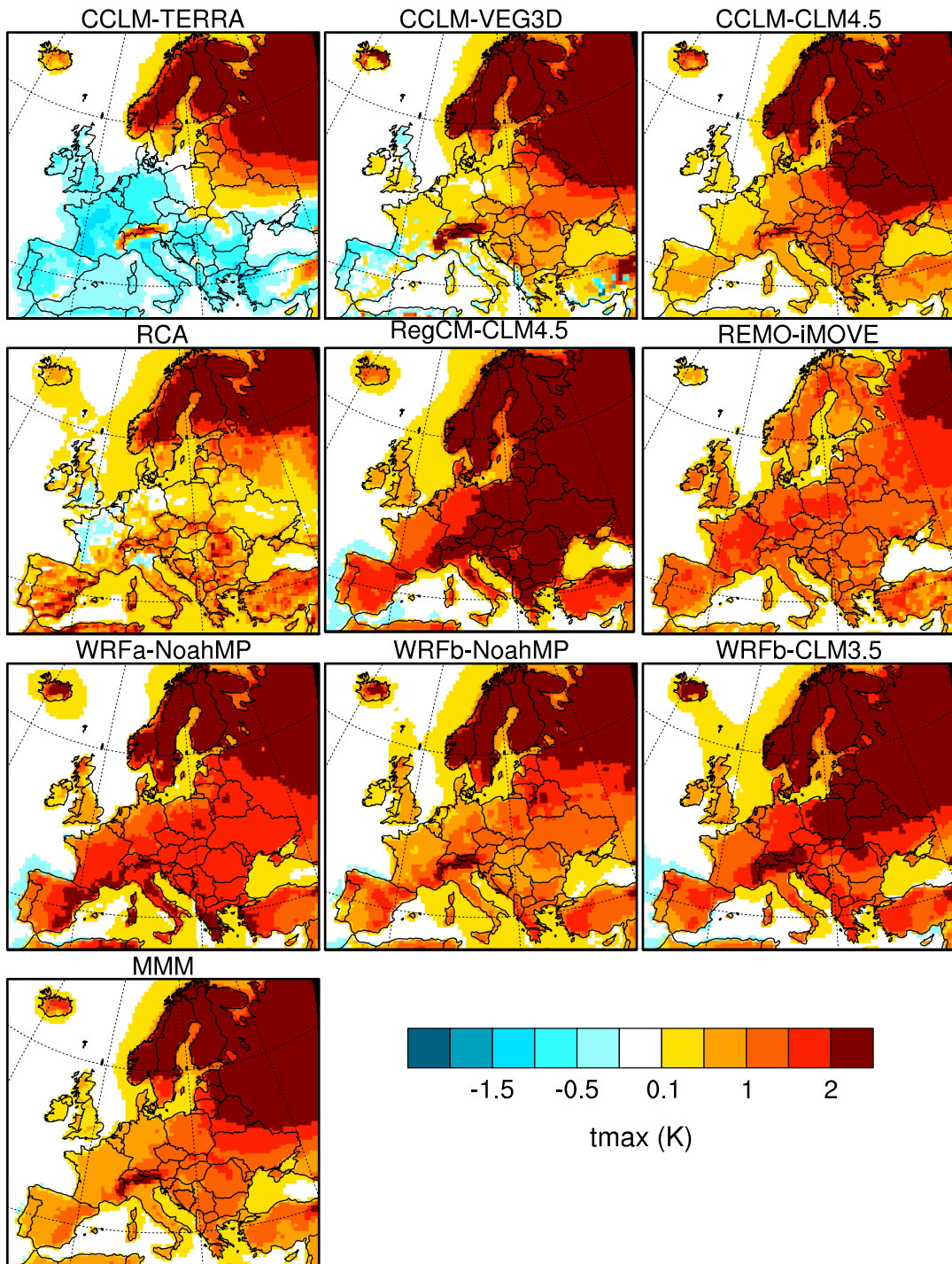
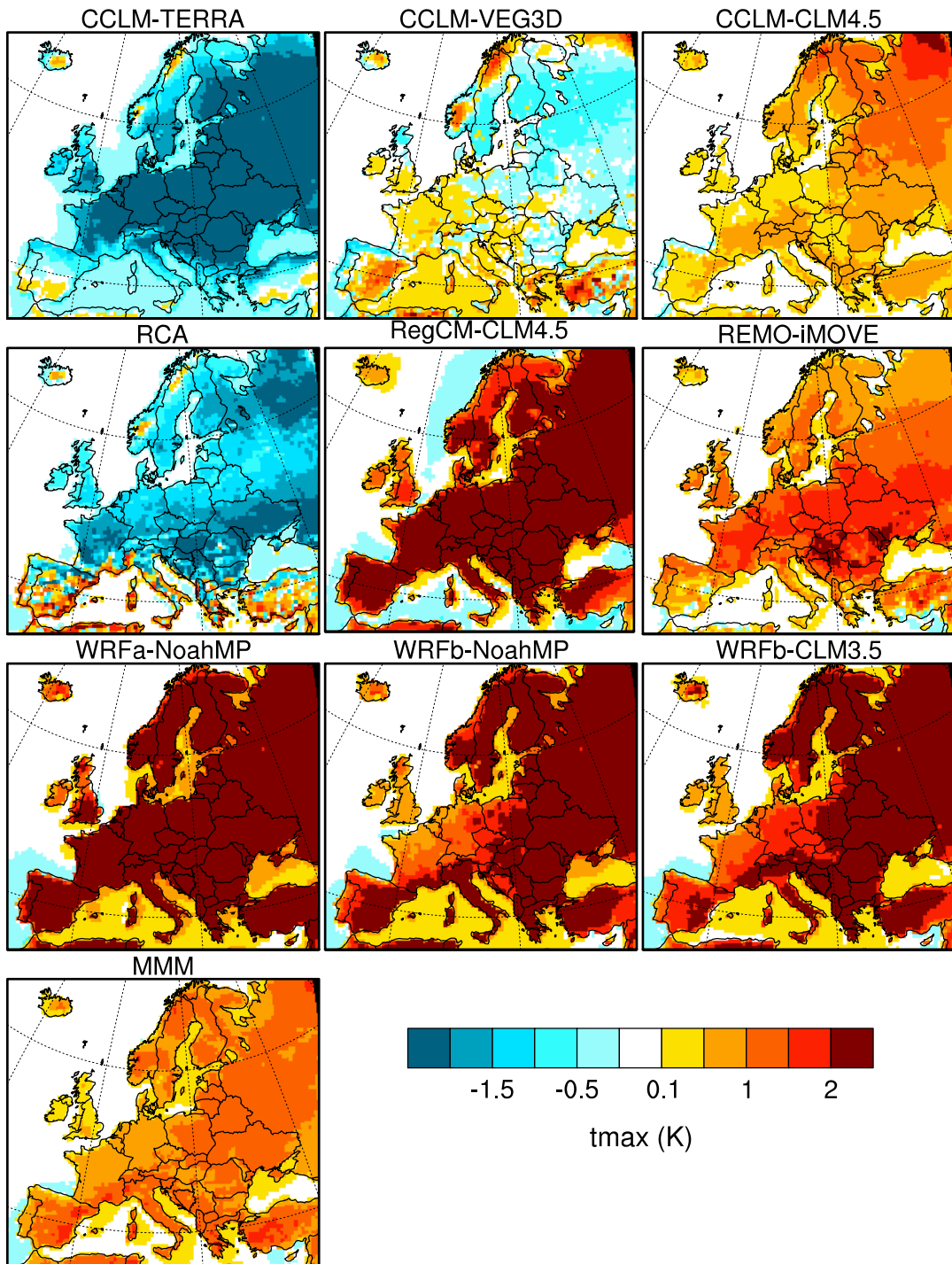


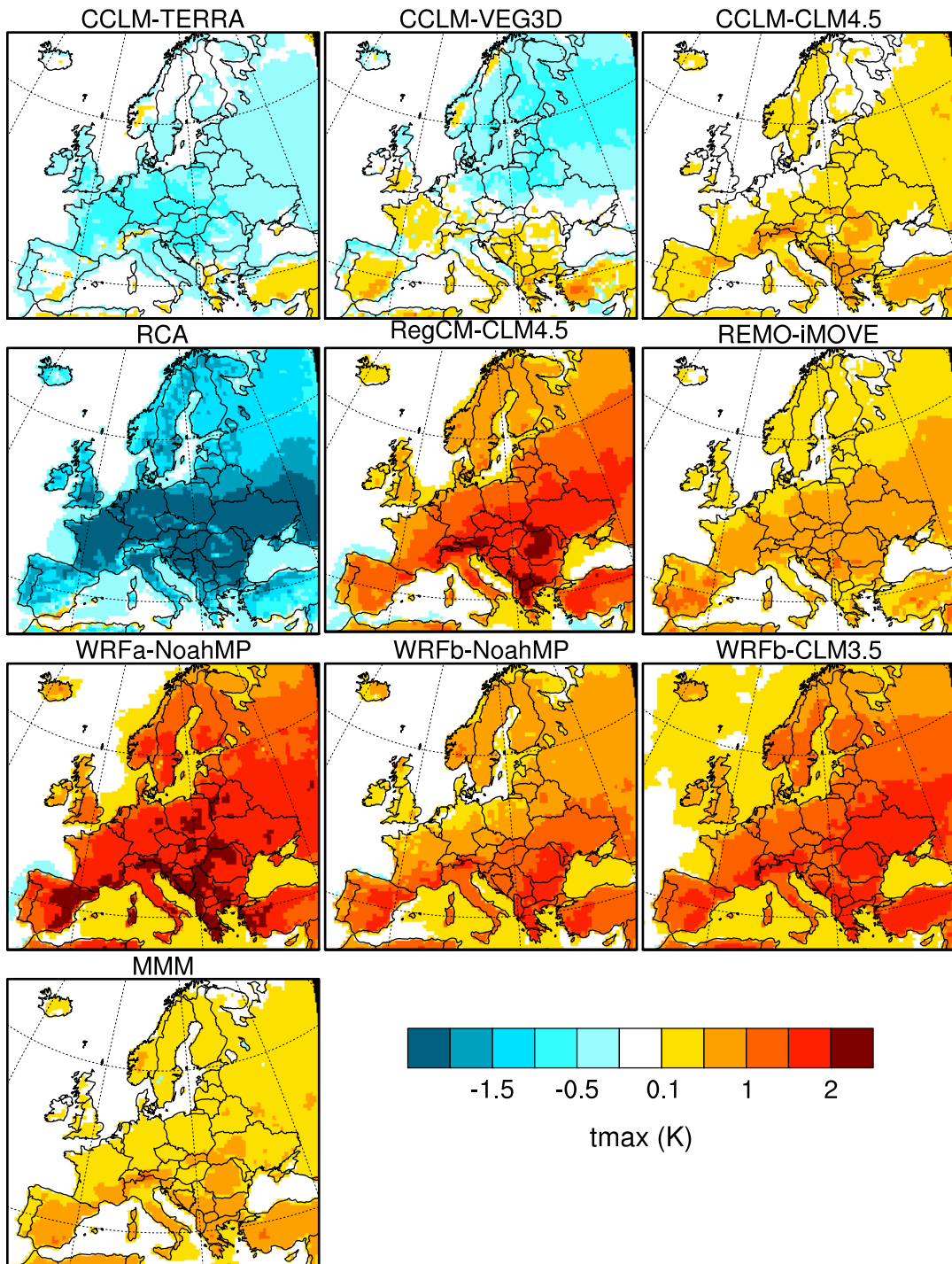
Figure S3. Daily maximum 2-metre temperature (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM



JJA



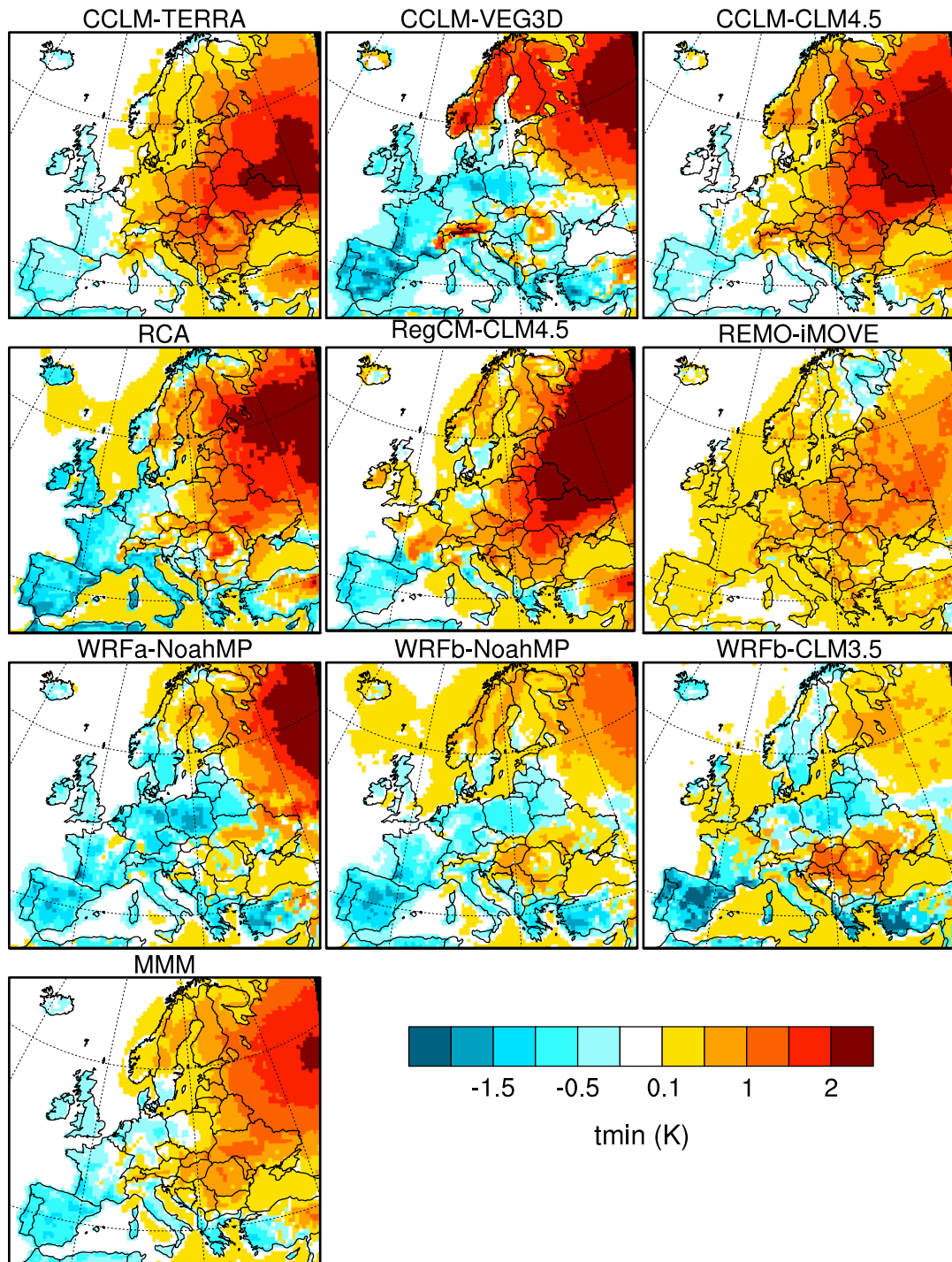
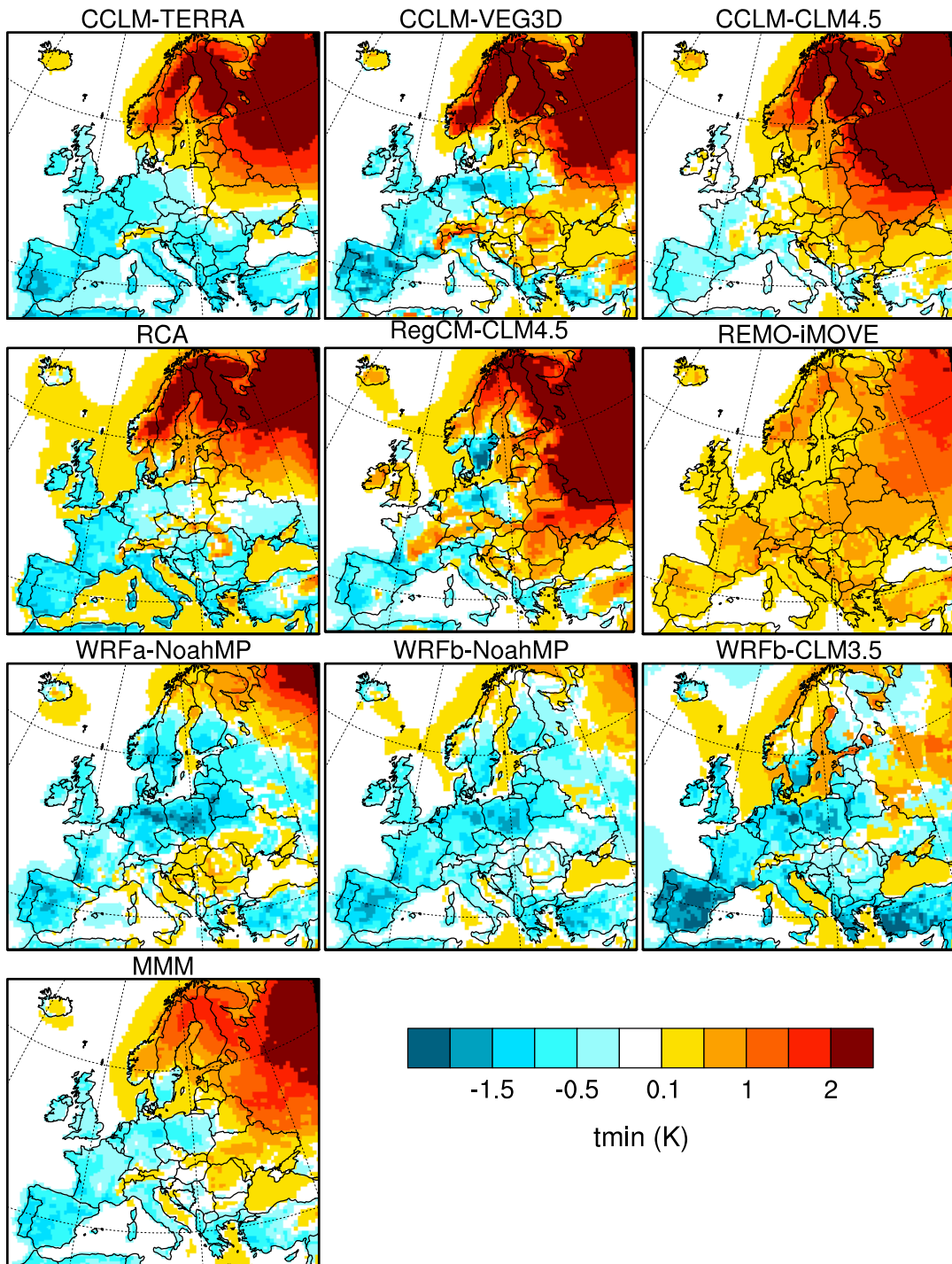
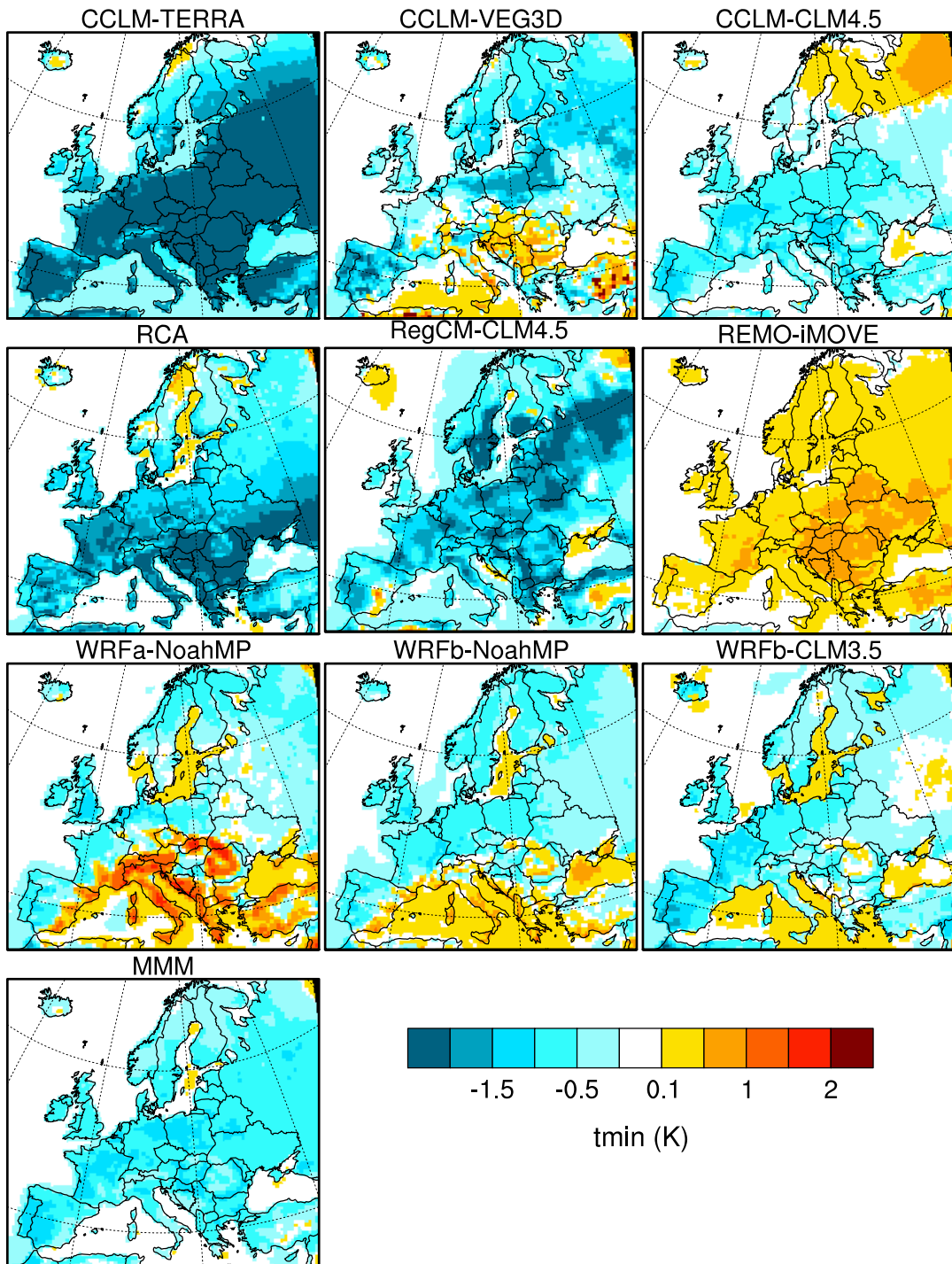
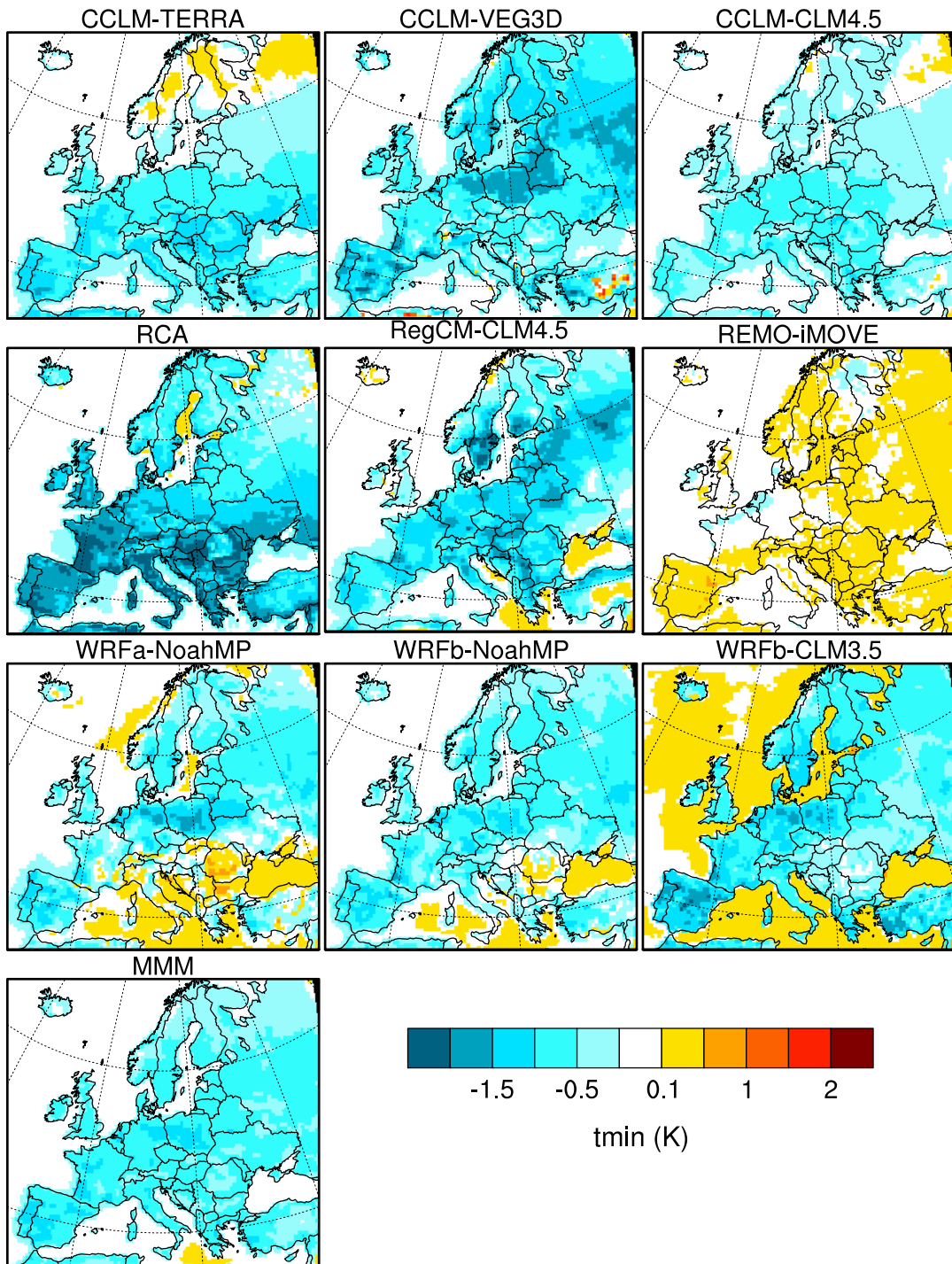


Figure S4. Daily minimum 2-metre temperature (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.





JJA



SON

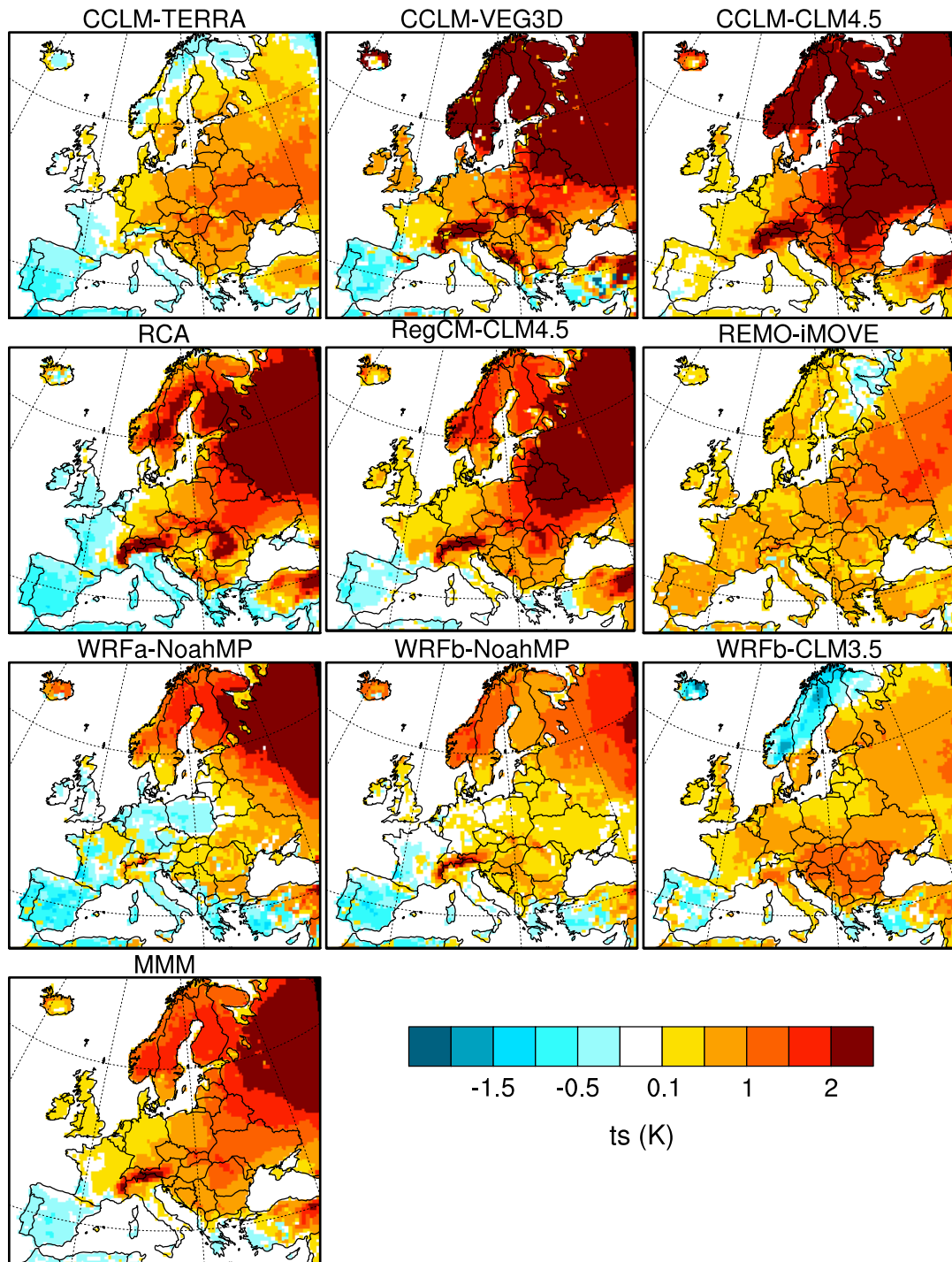
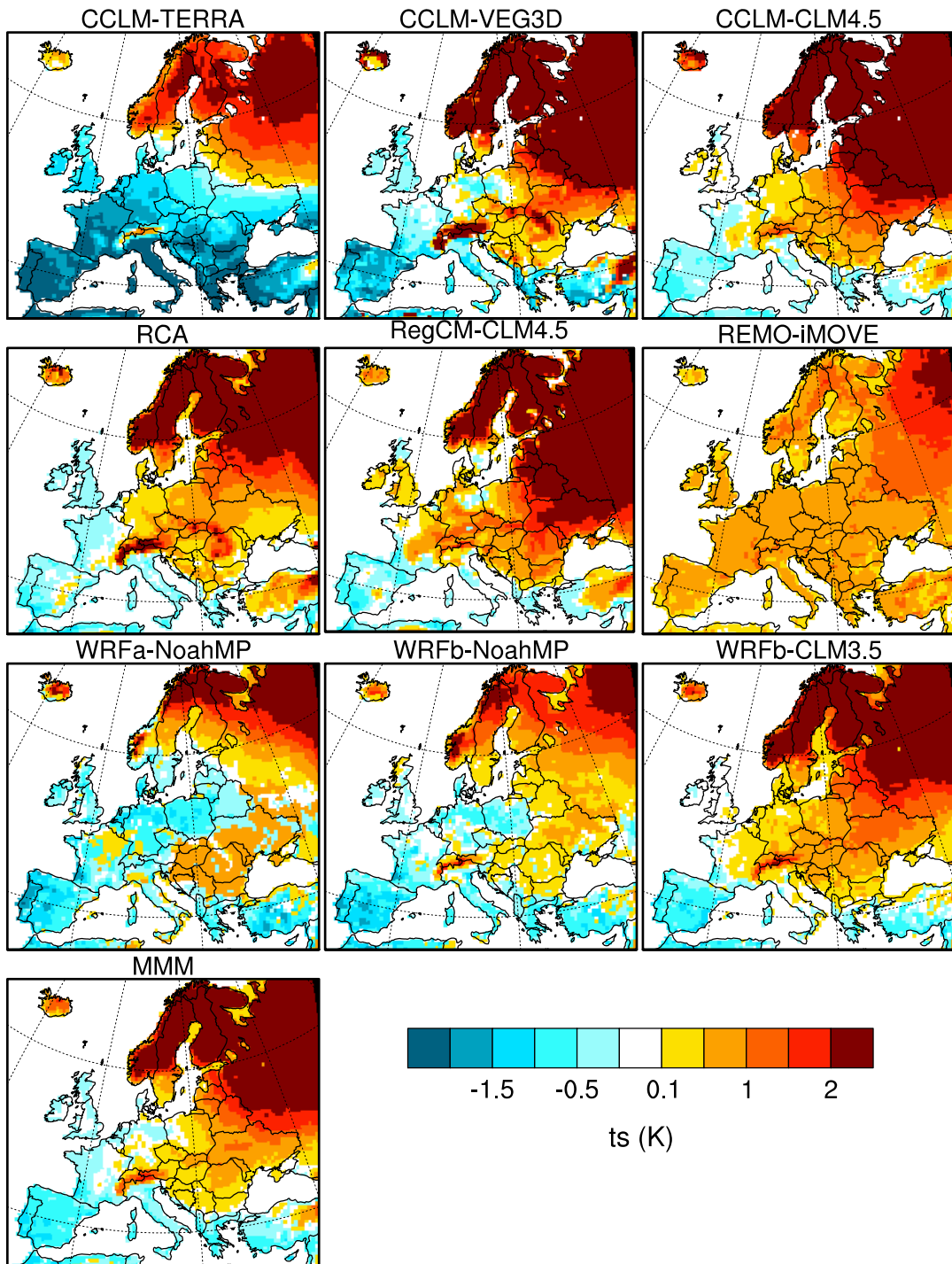
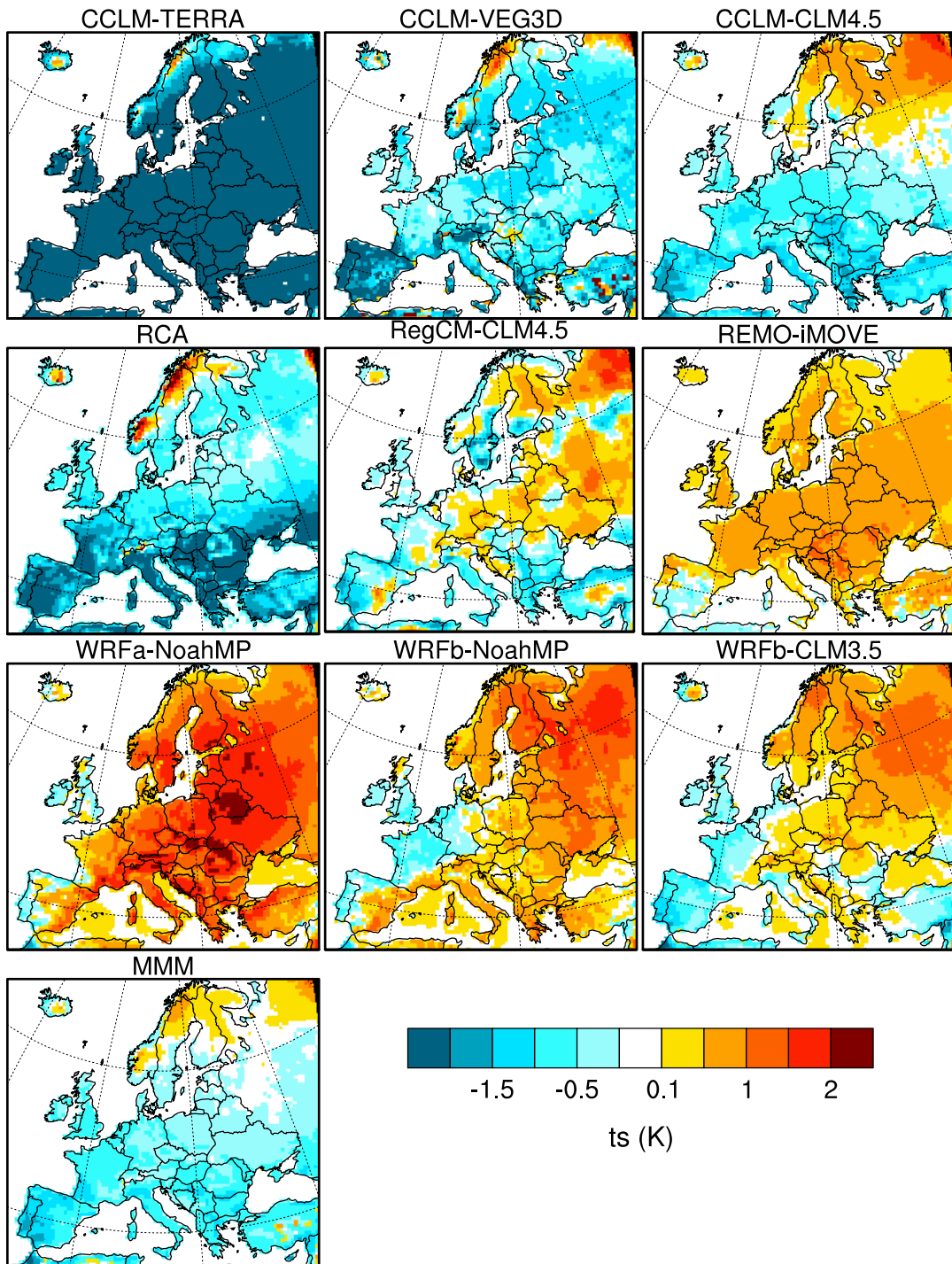
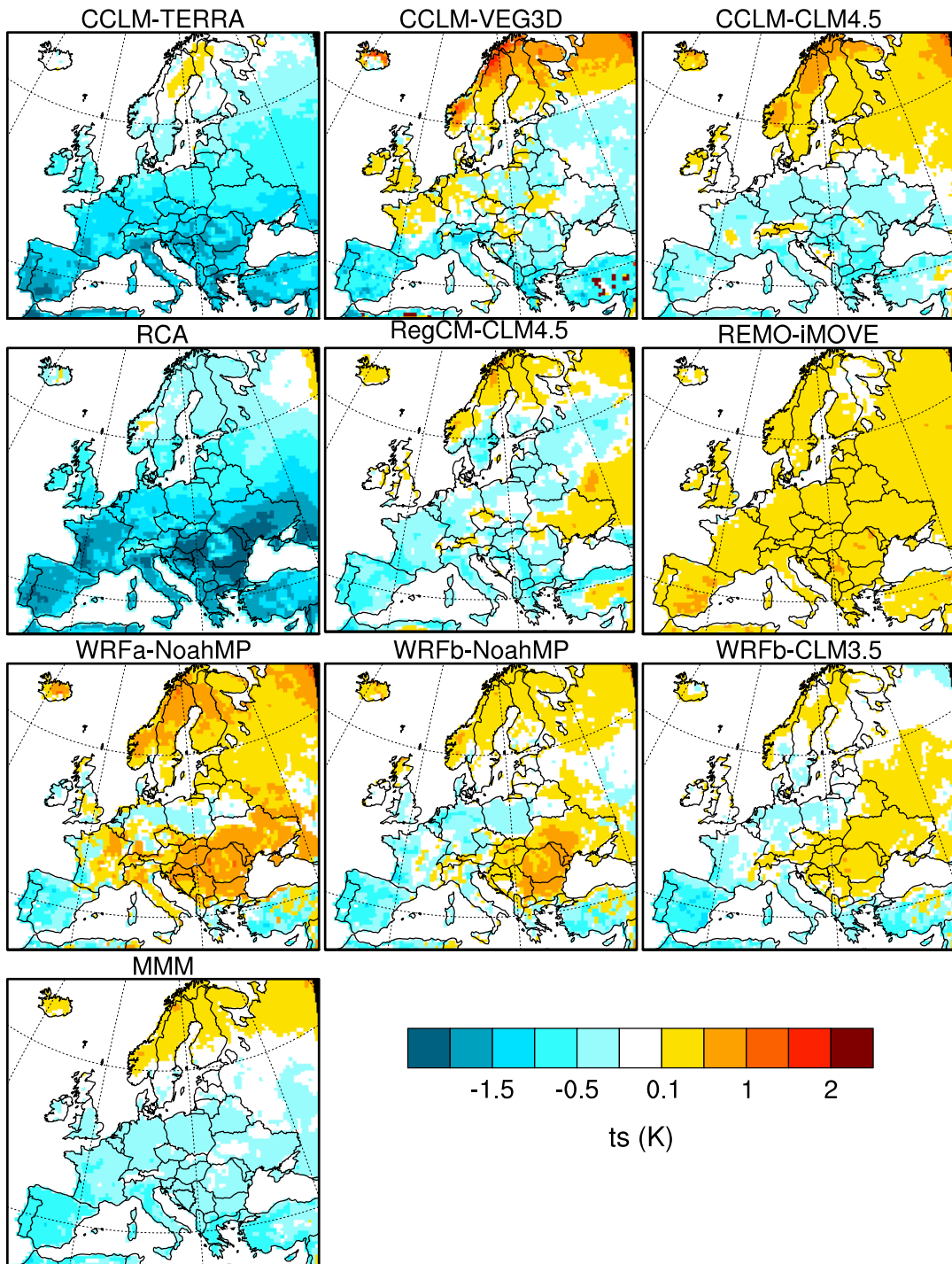


Figure S5. Skin temperature (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.

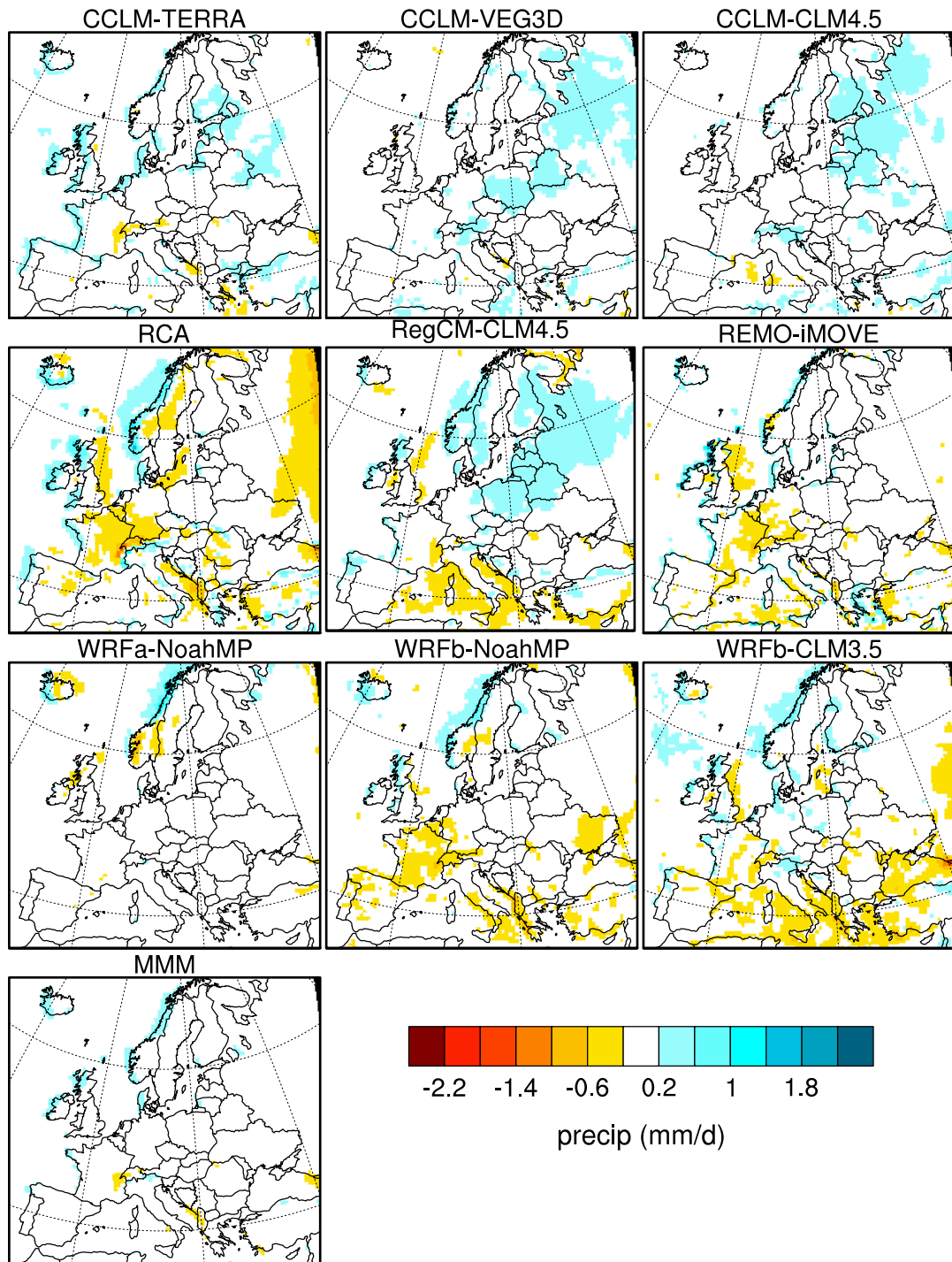




JJA

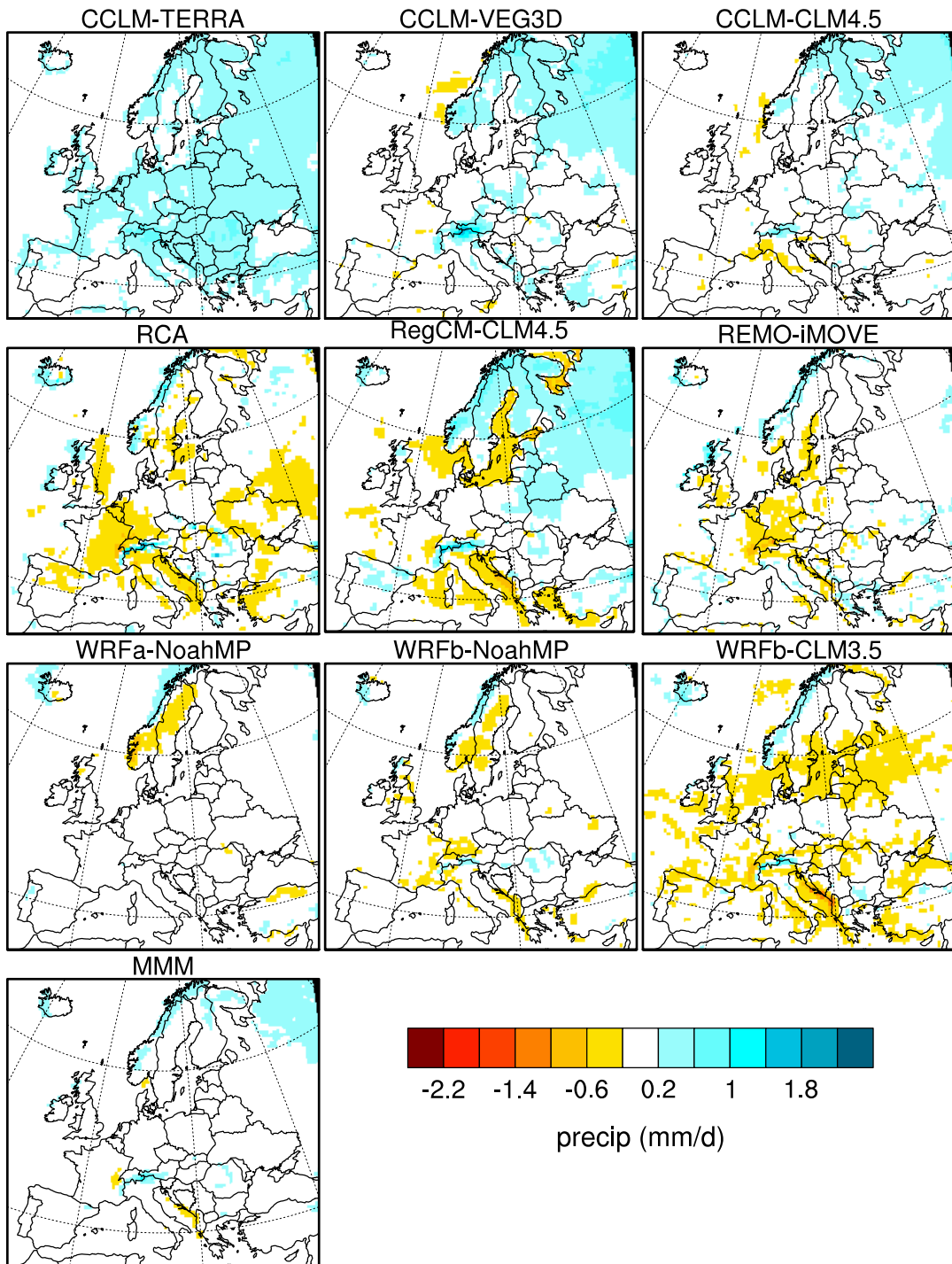


SON

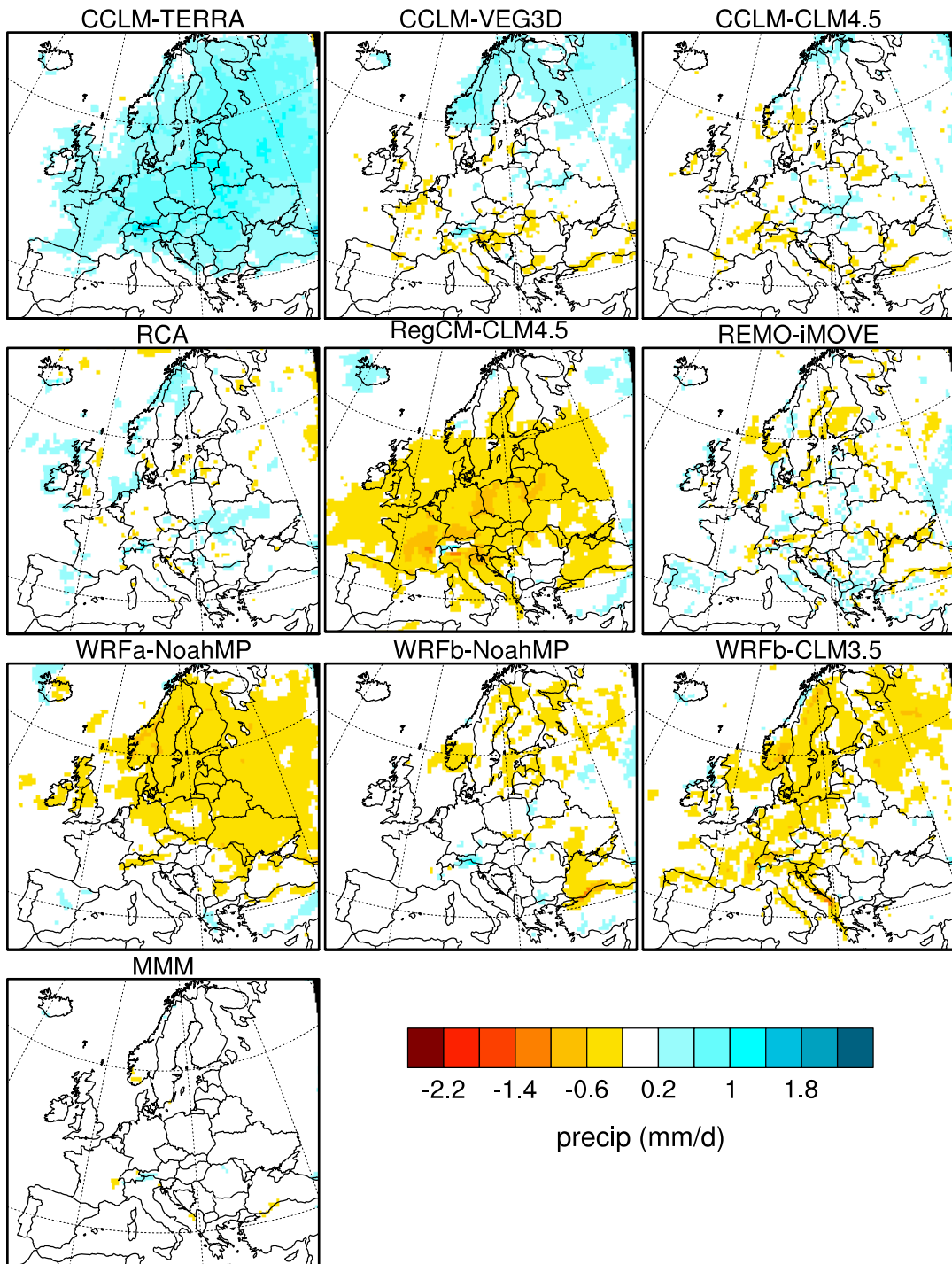


DJF

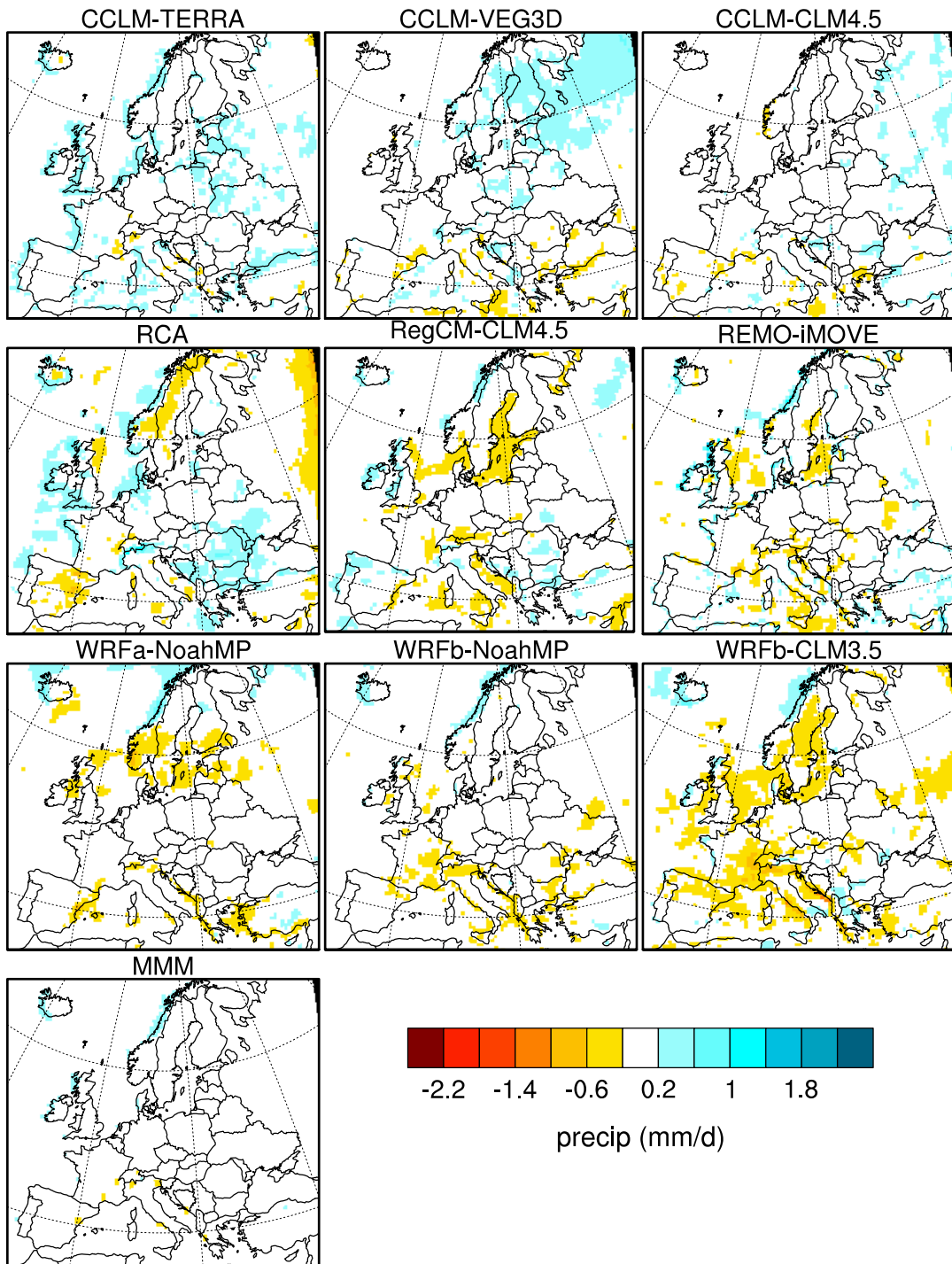
Figure S6. Total precipitation (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM



JJA



SON

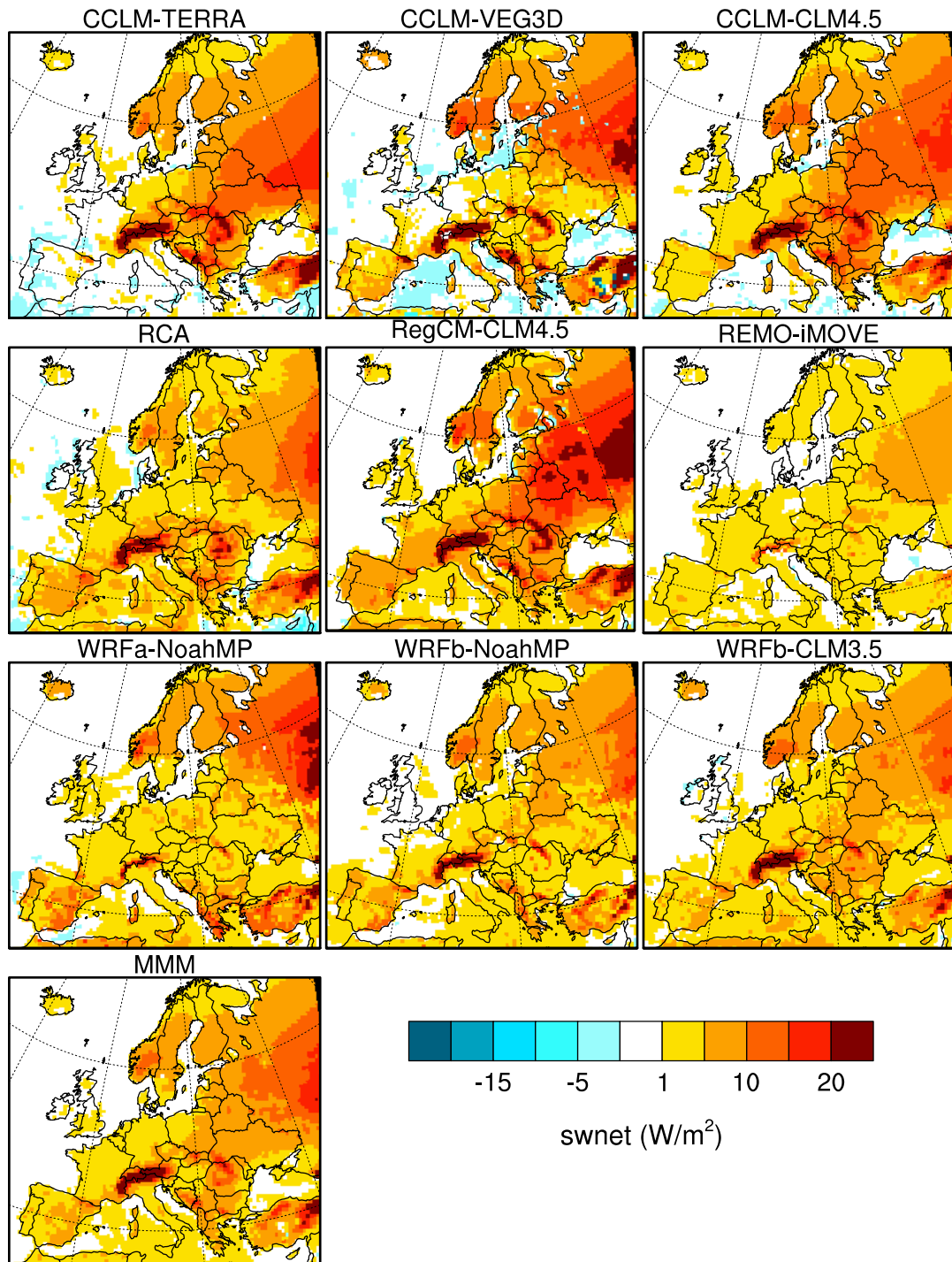
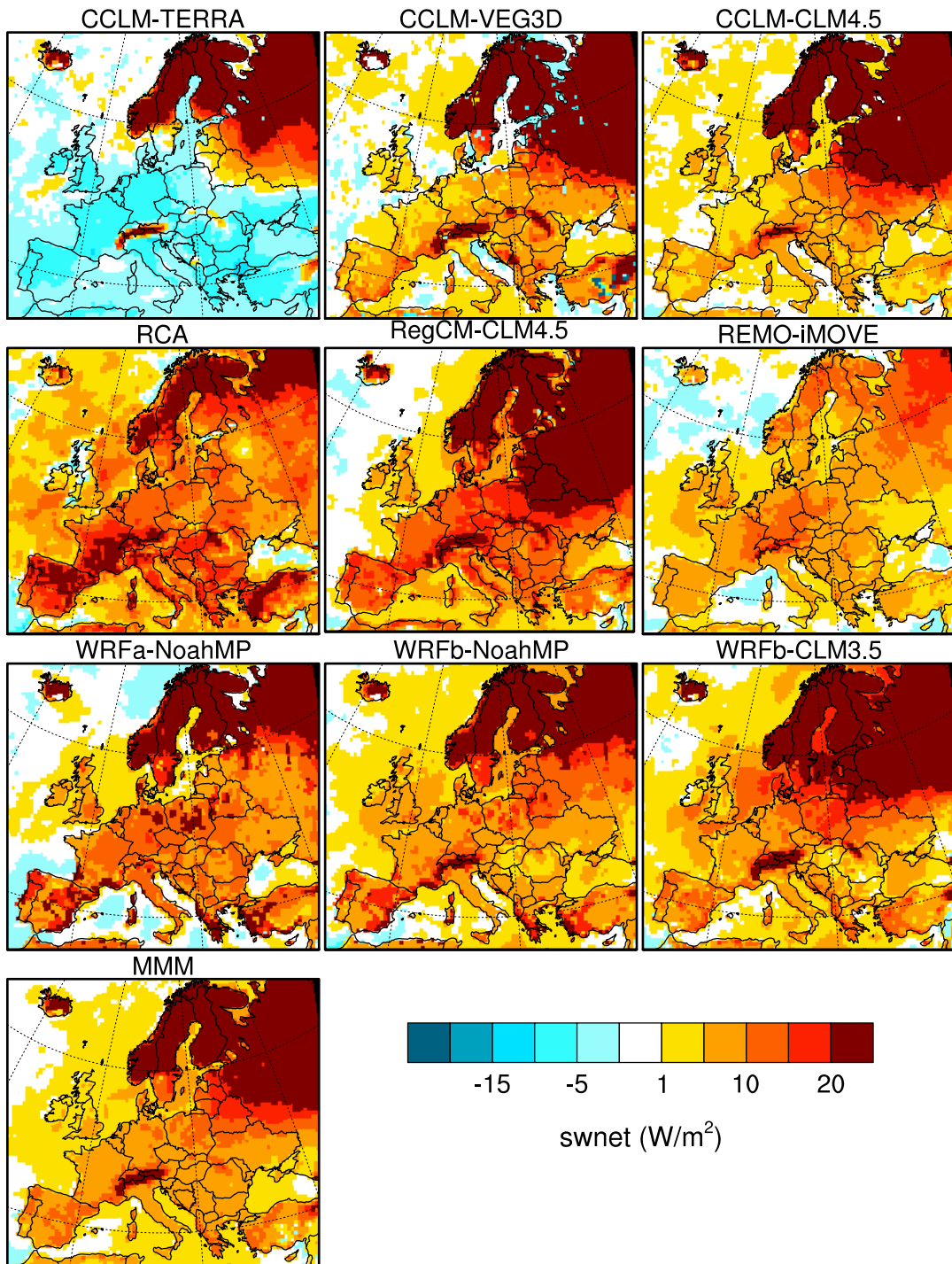
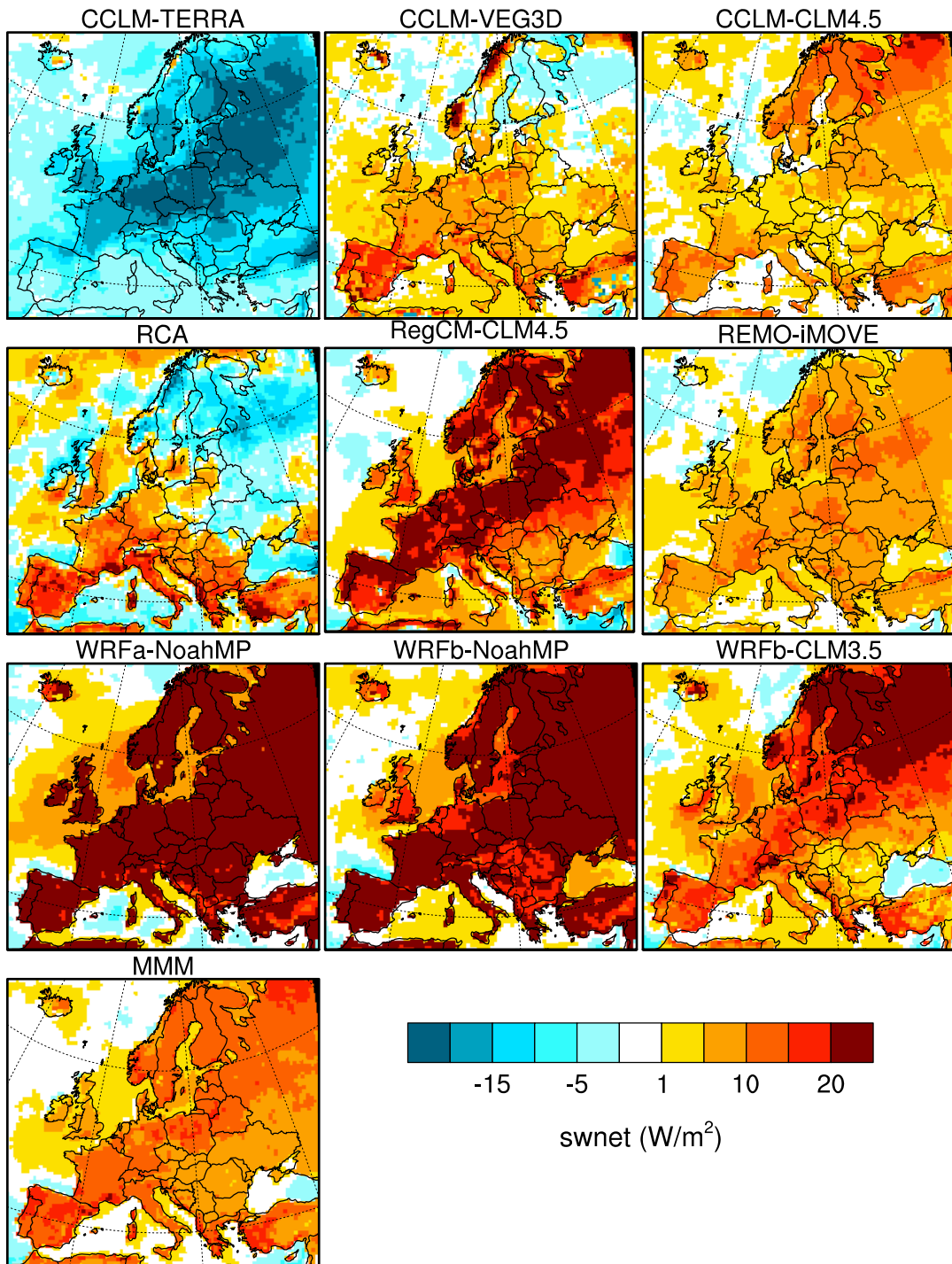


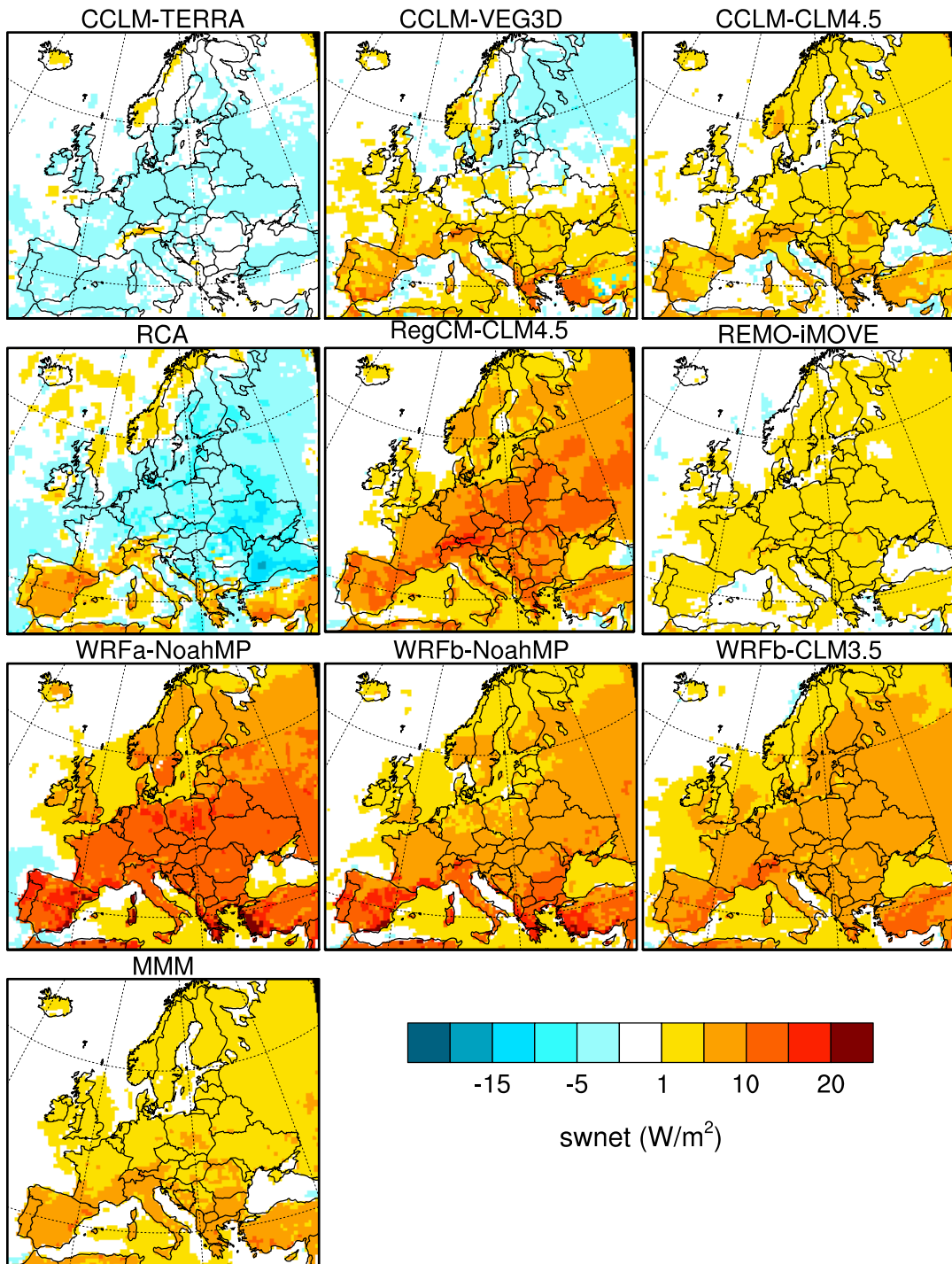
Figure S7. Net shortwave radiation (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM



JJA



SON

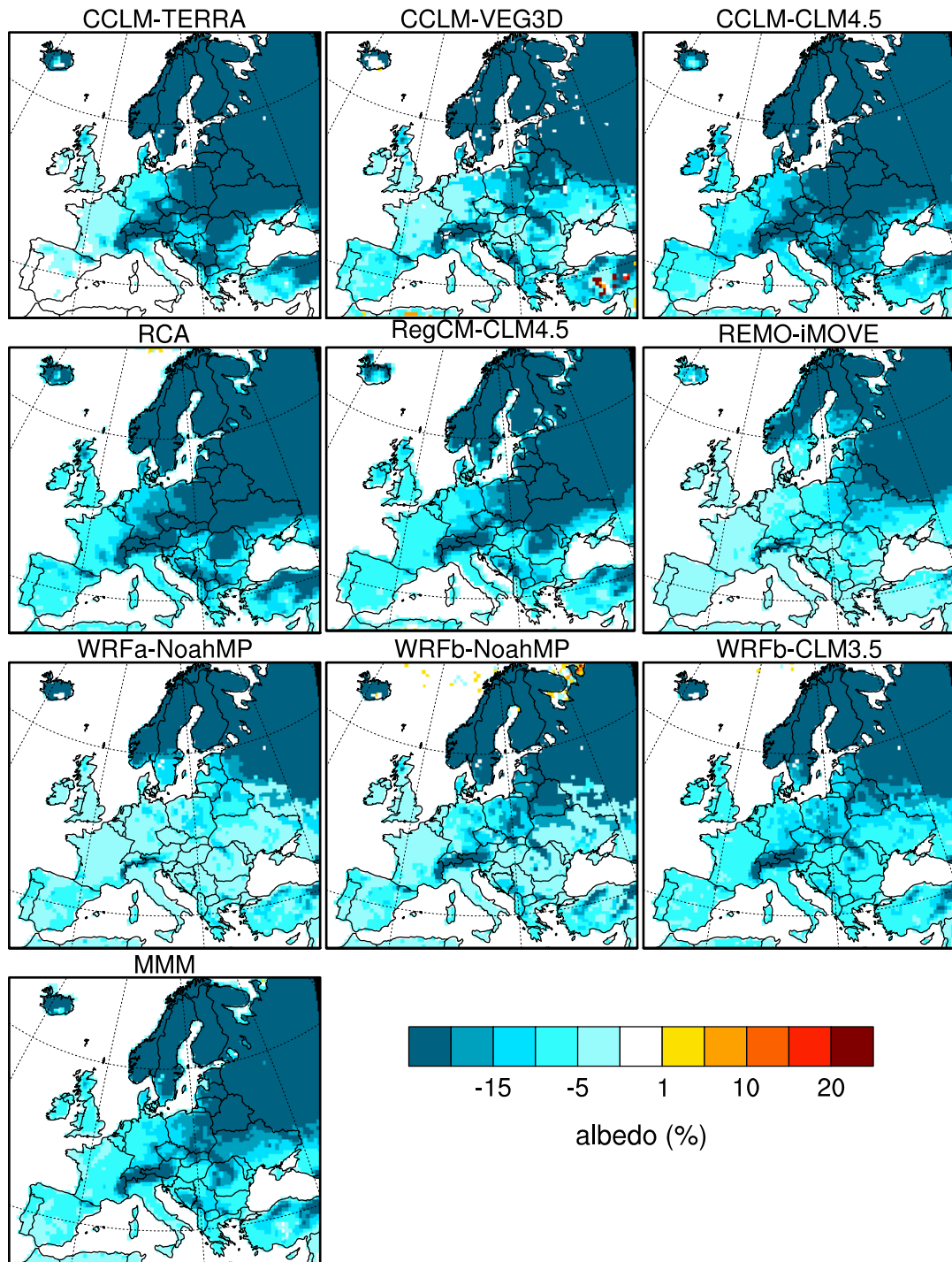
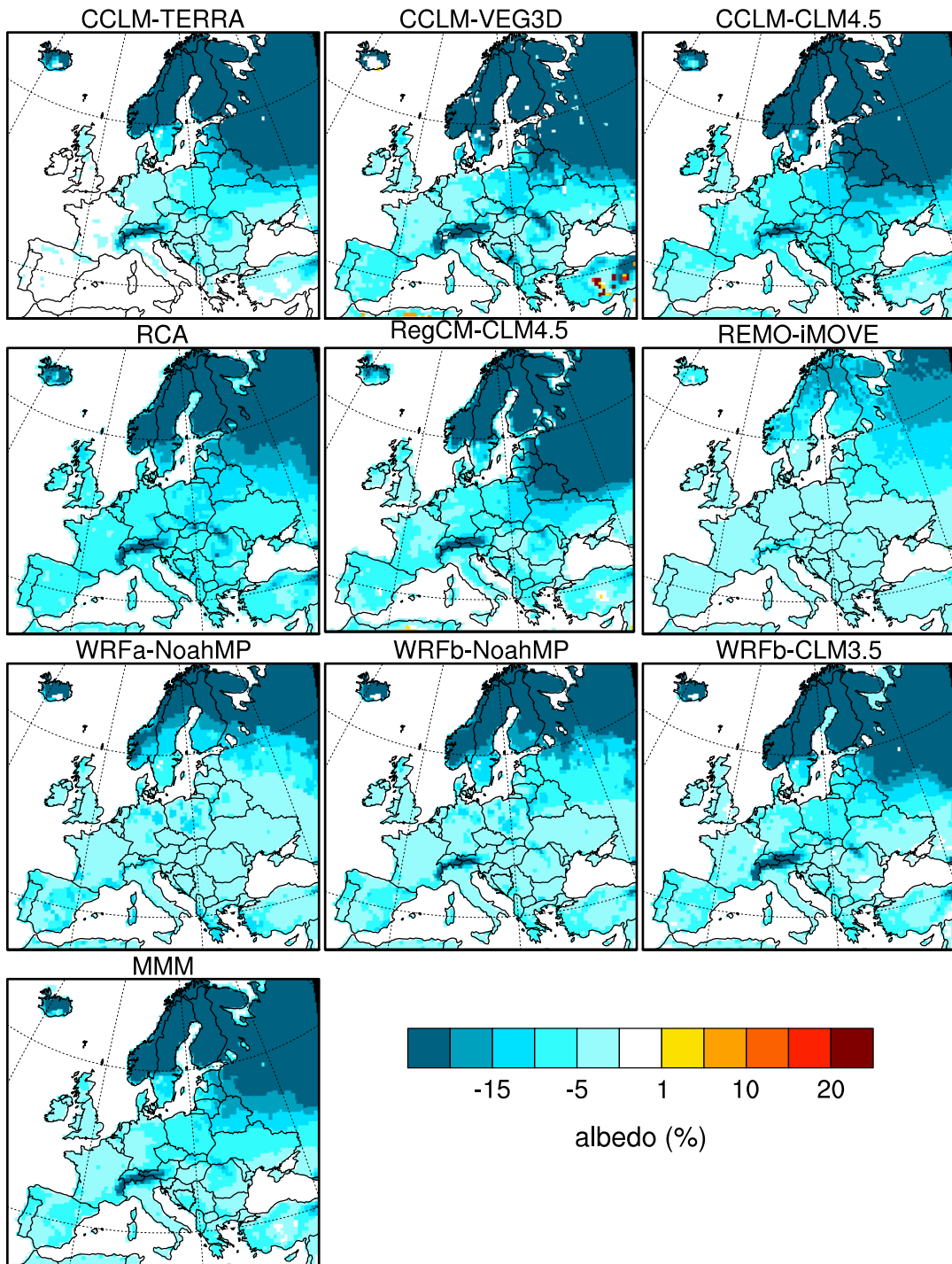
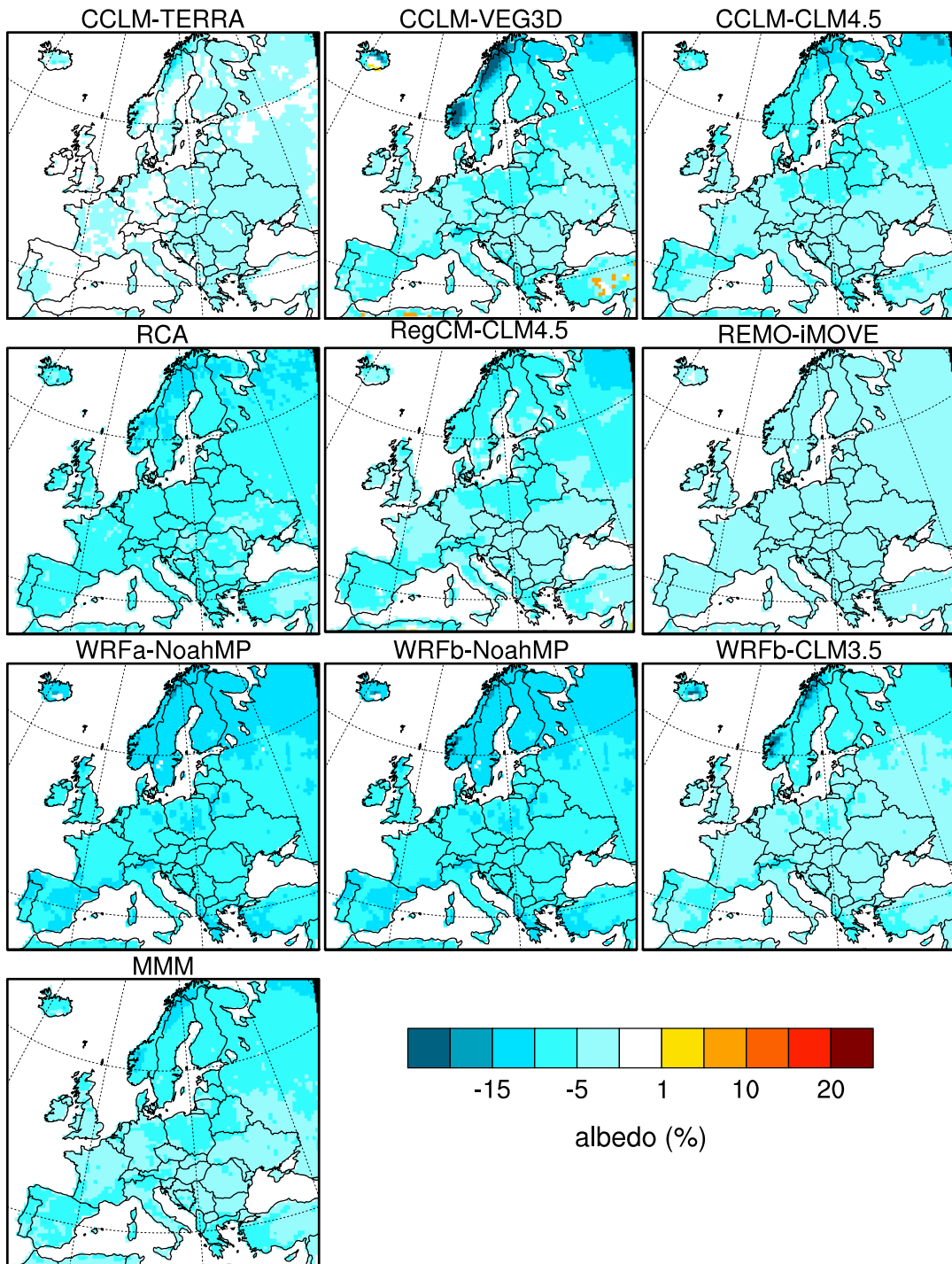


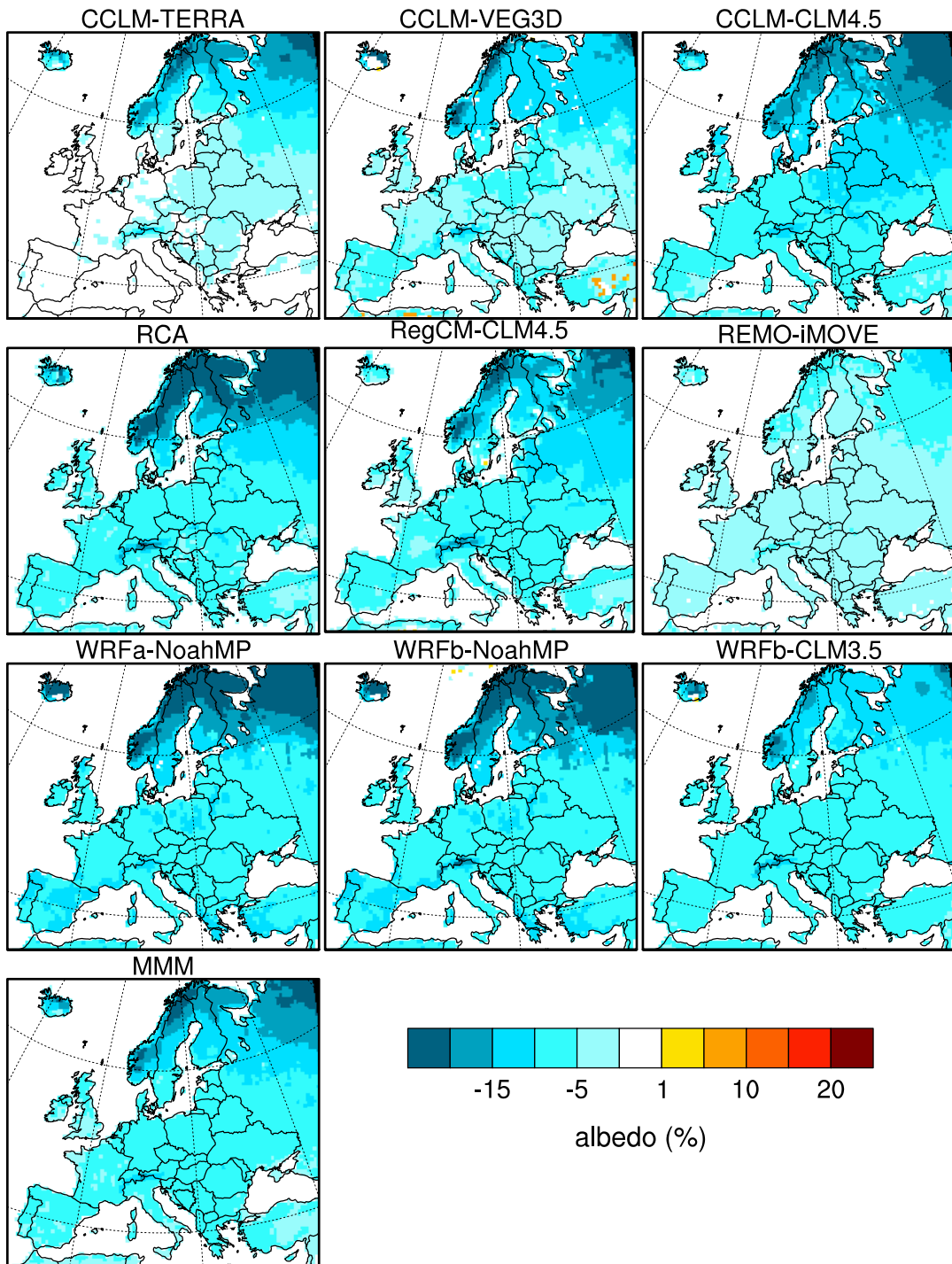
Figure S8. Surface albedo (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM



JJA



SON

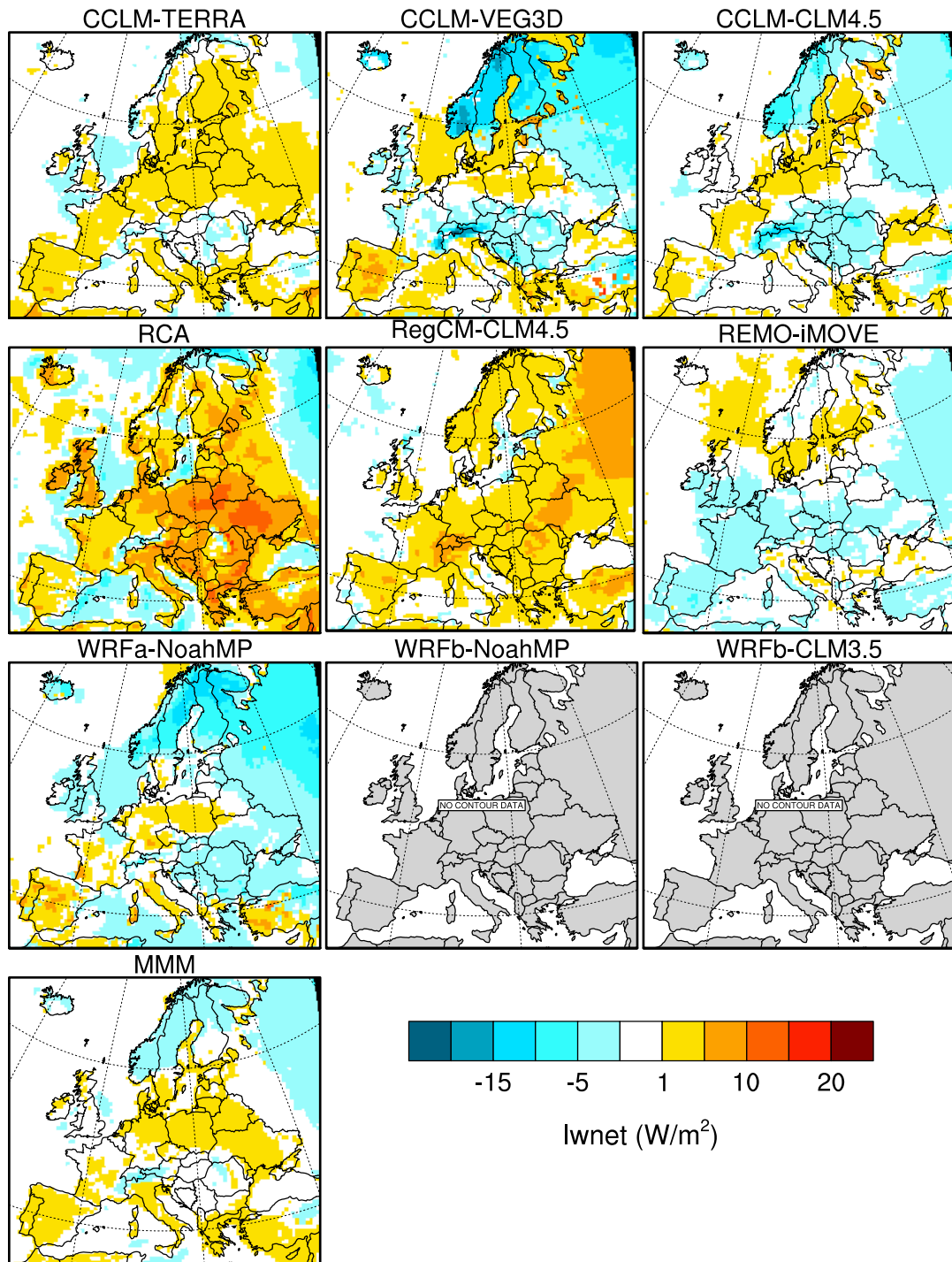
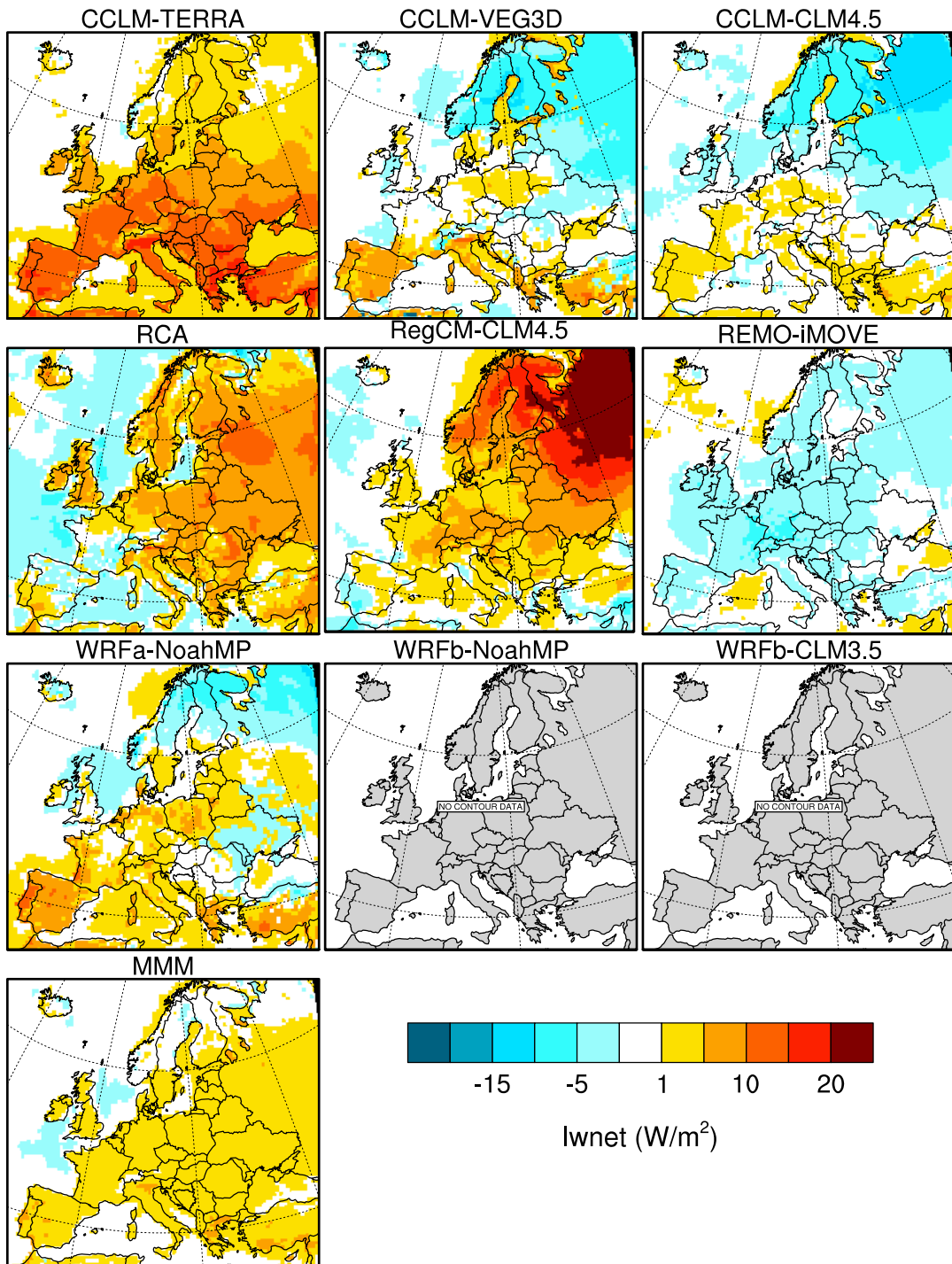
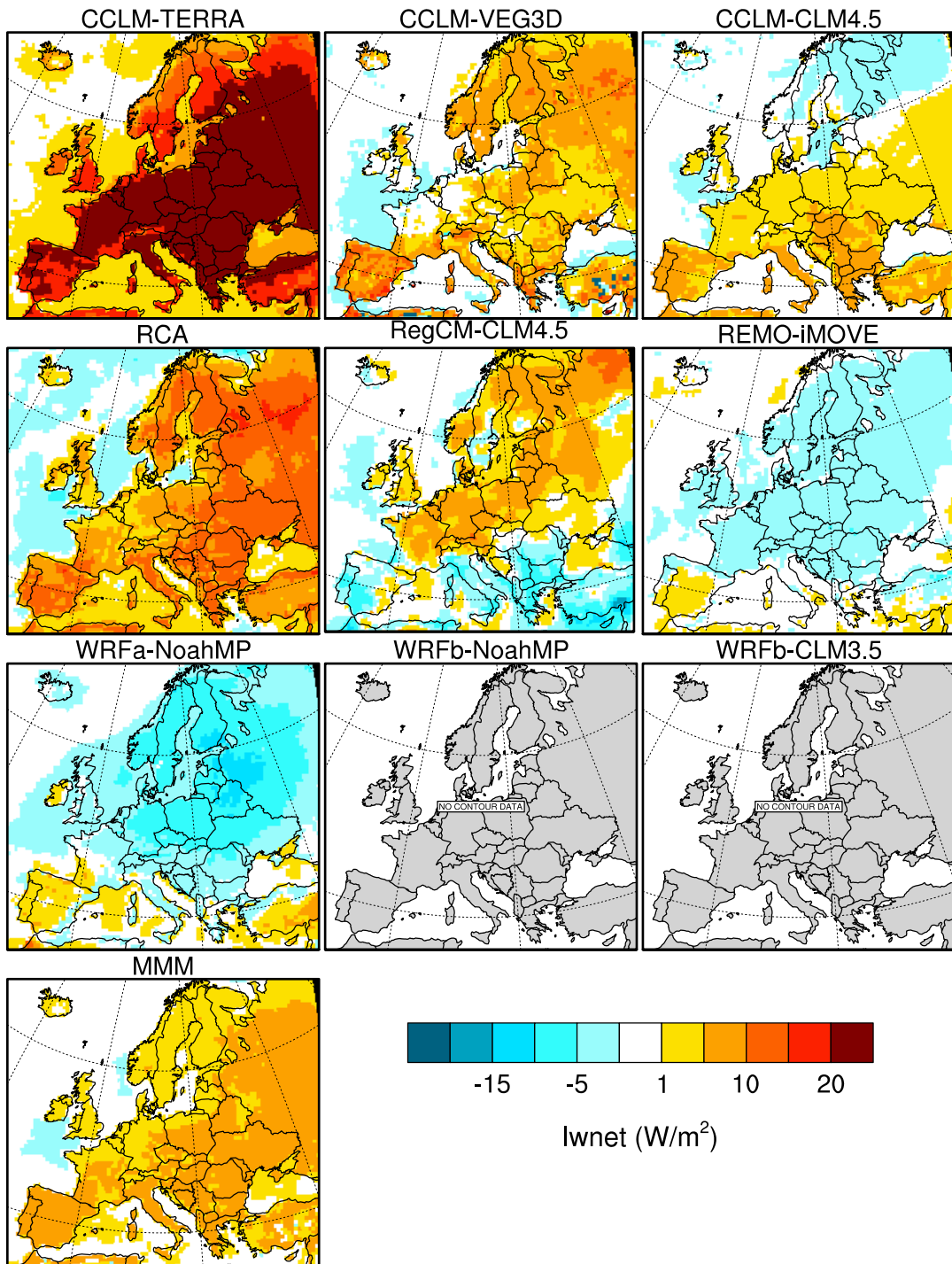


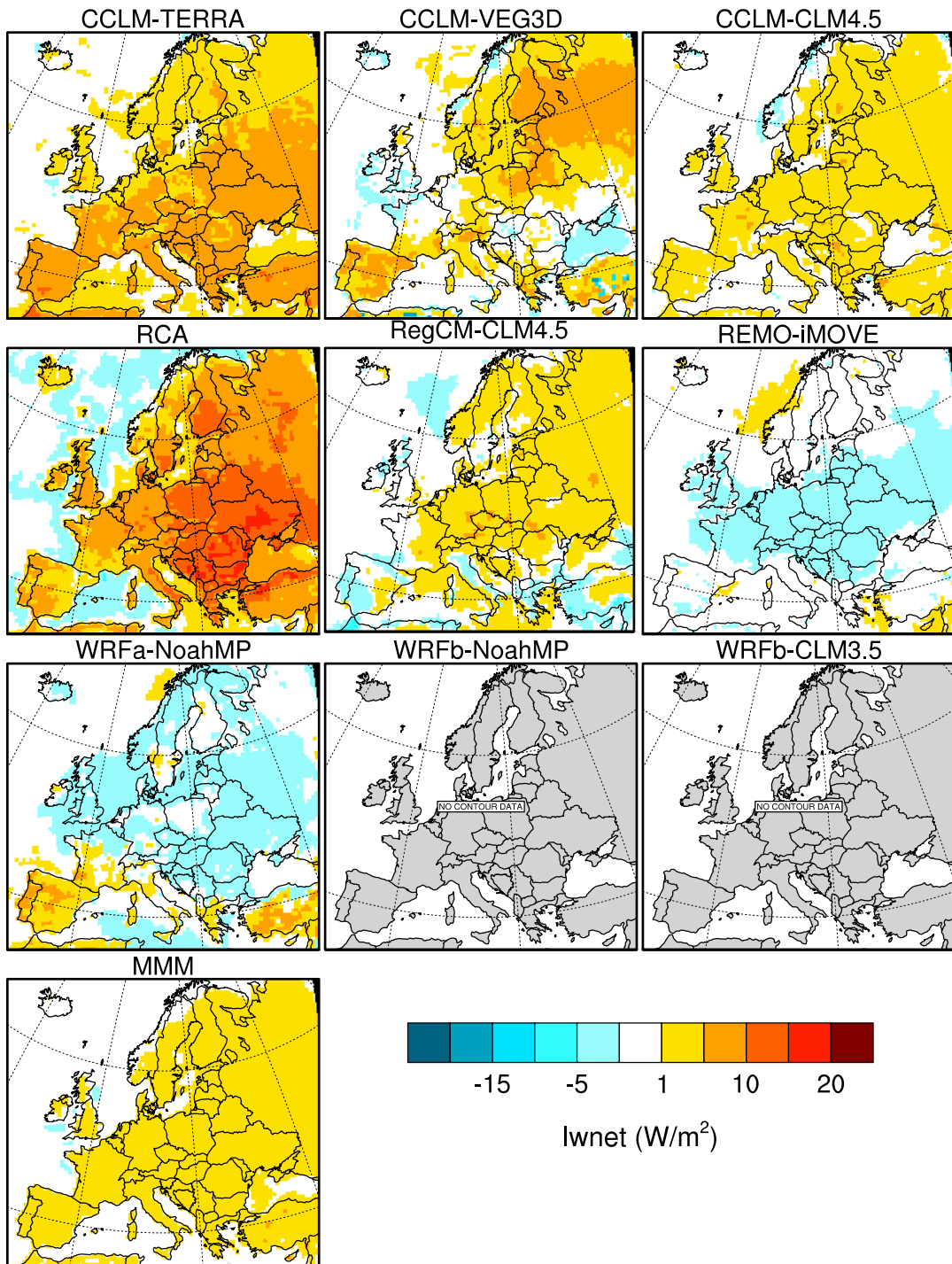
Figure S9. Net longwave radiation (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM



JJA



SON

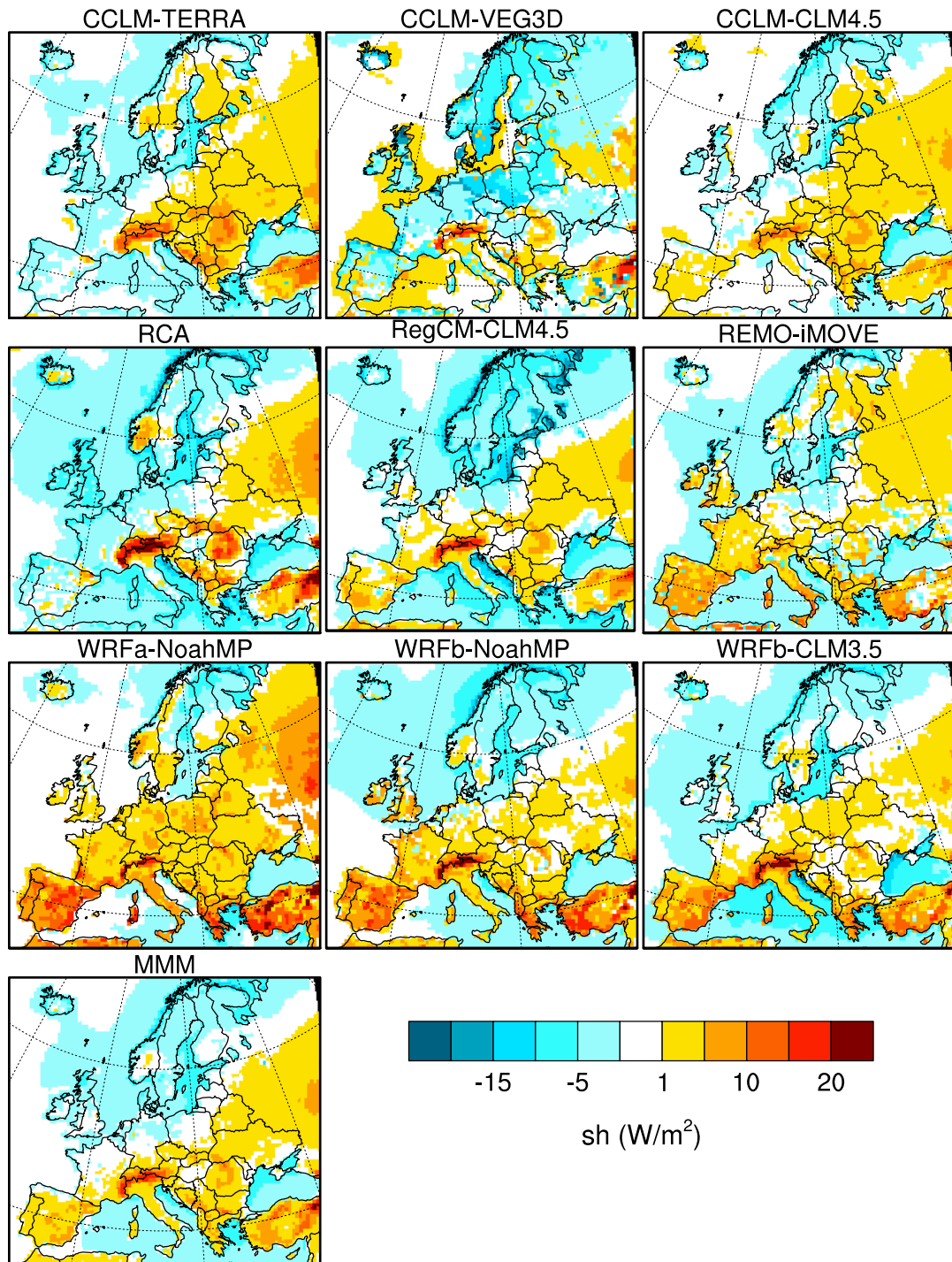
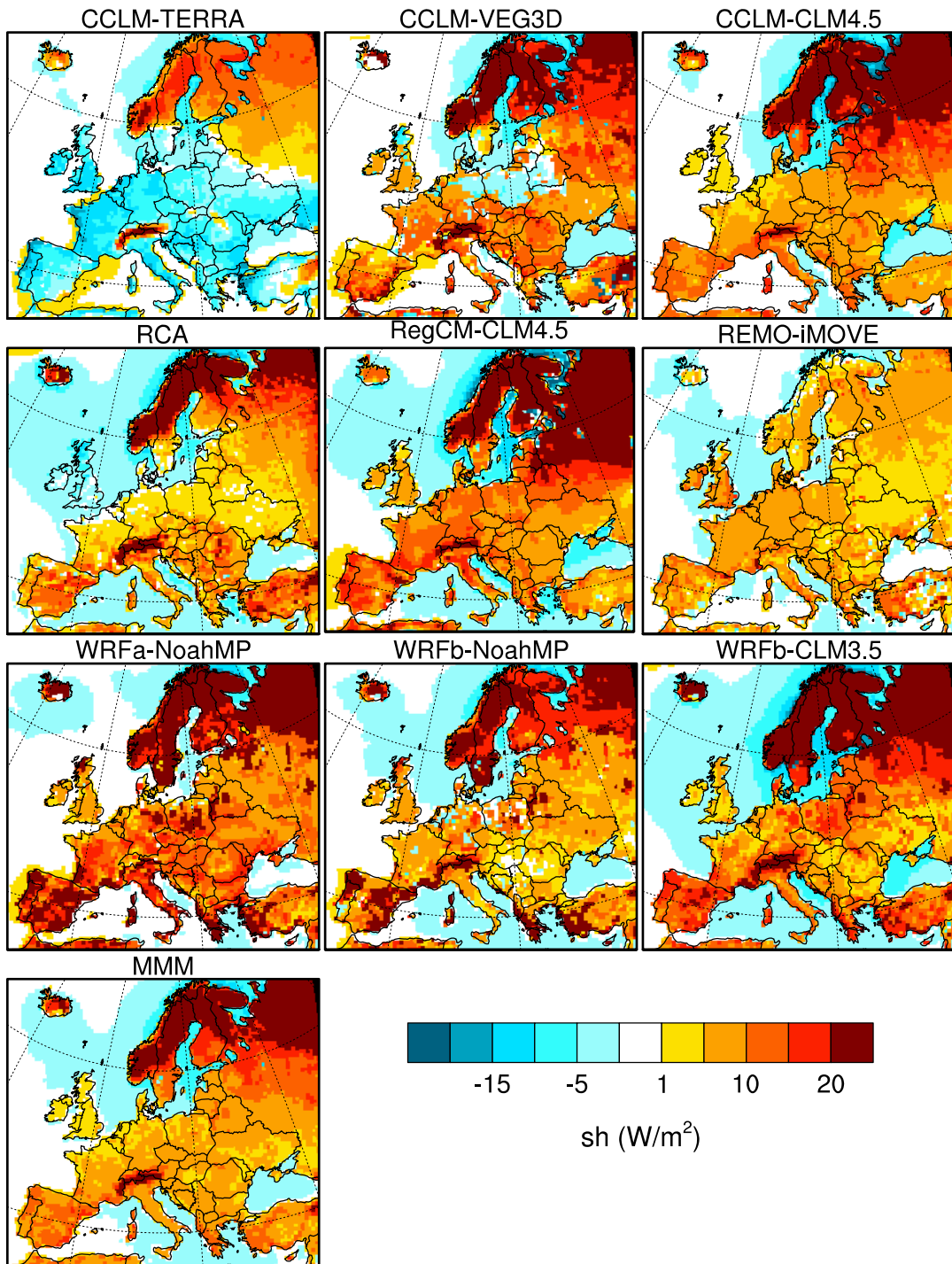
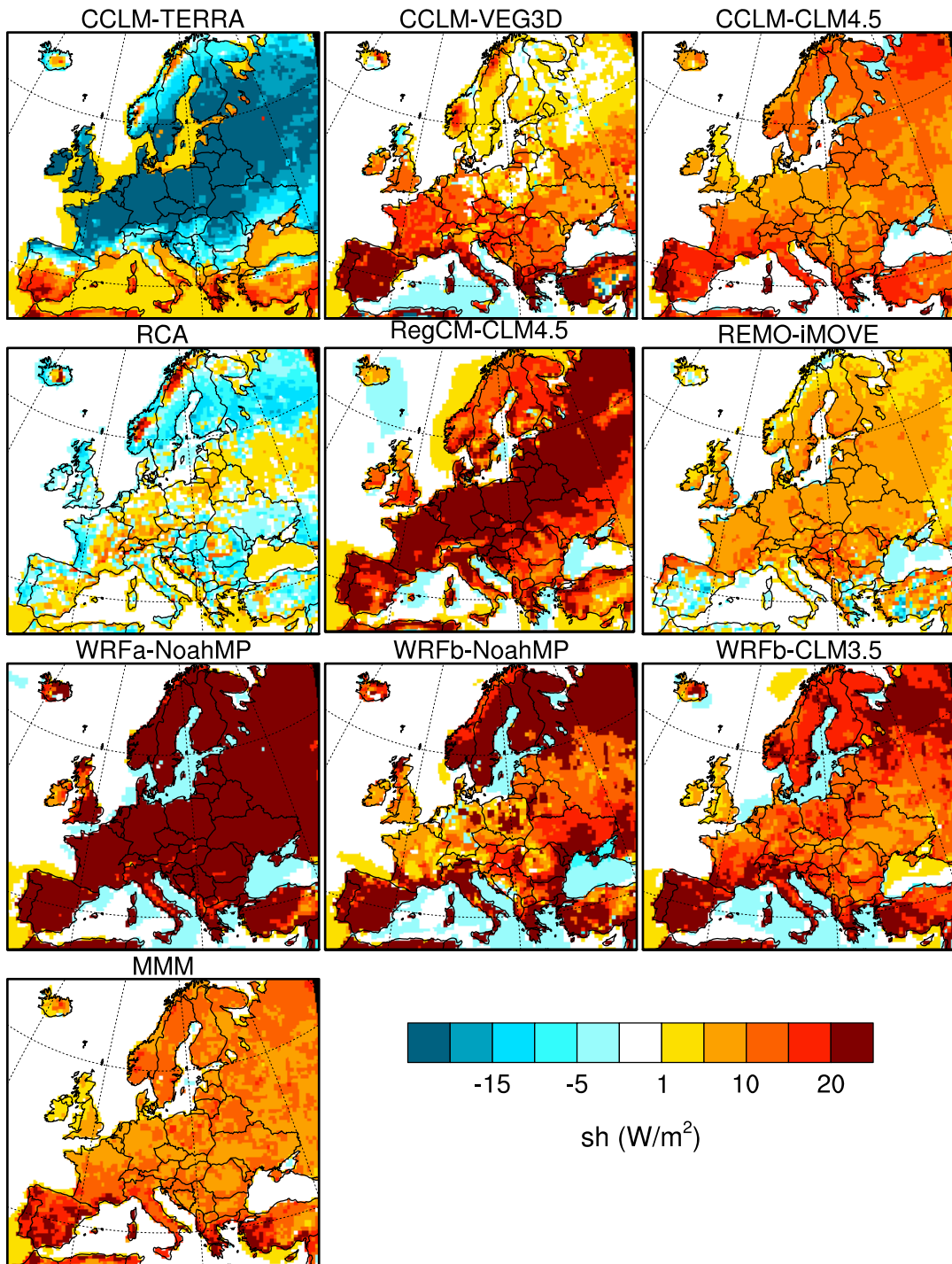


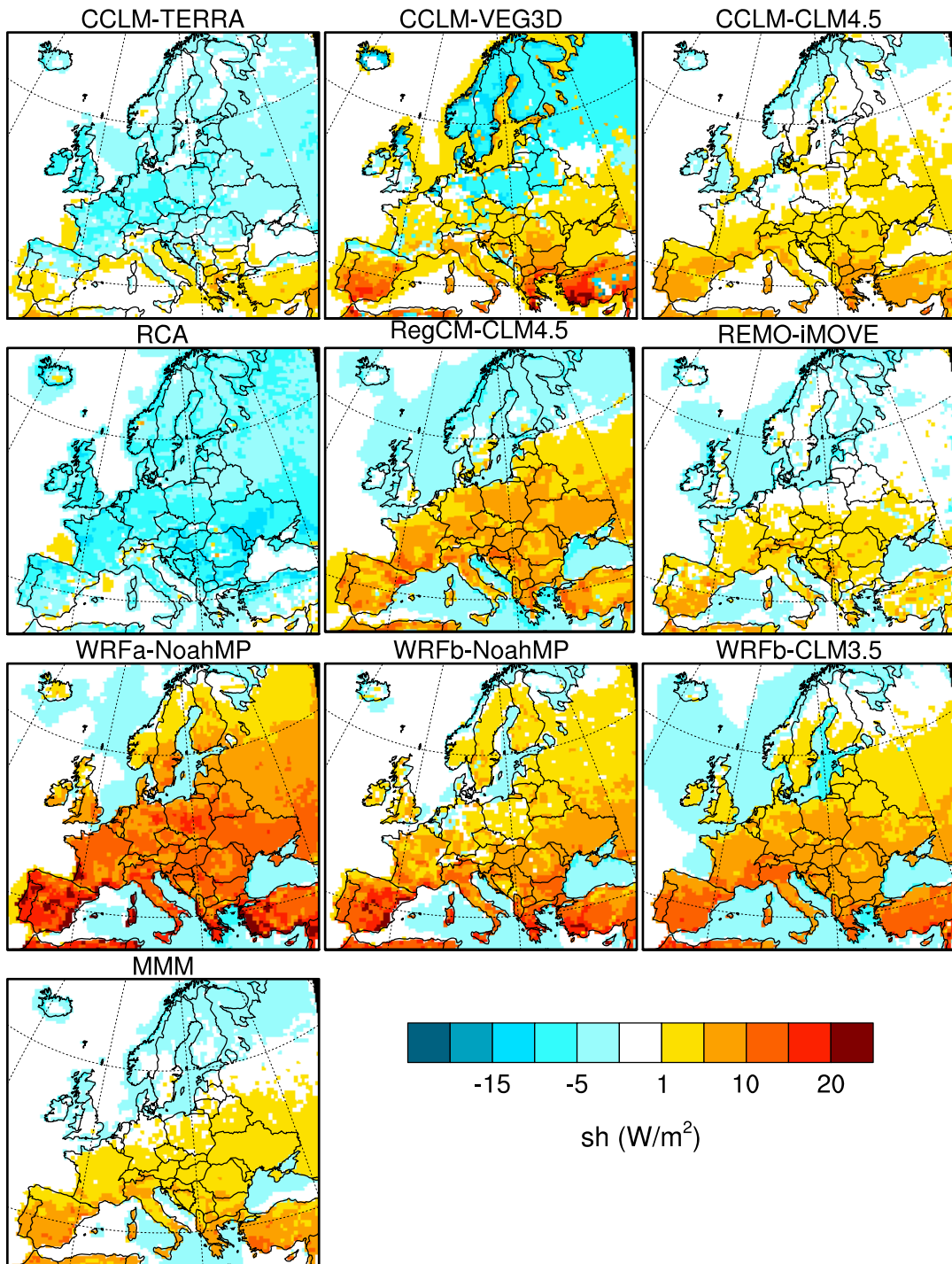
Figure S10. Sensible heat flux (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM



JJA



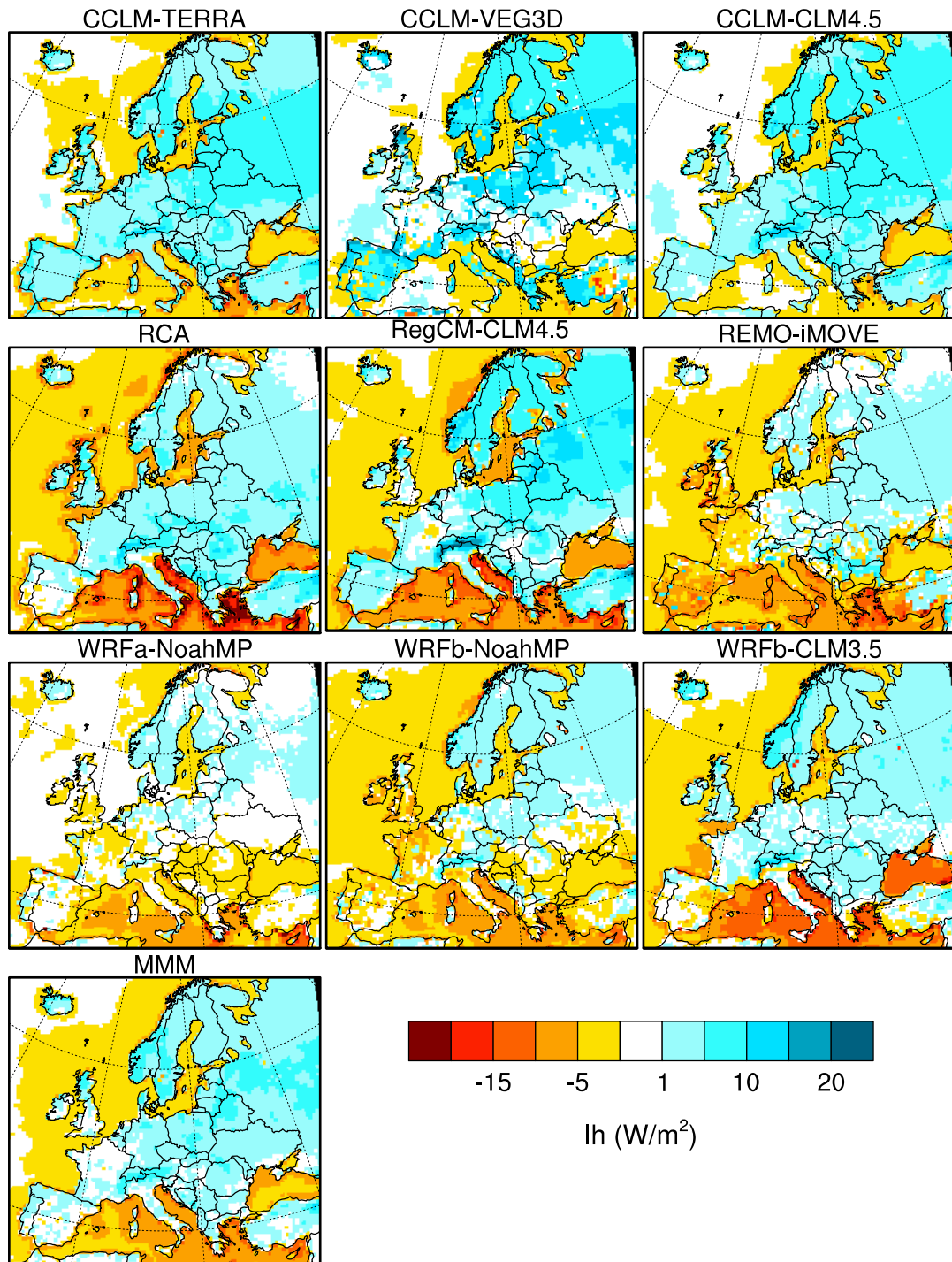
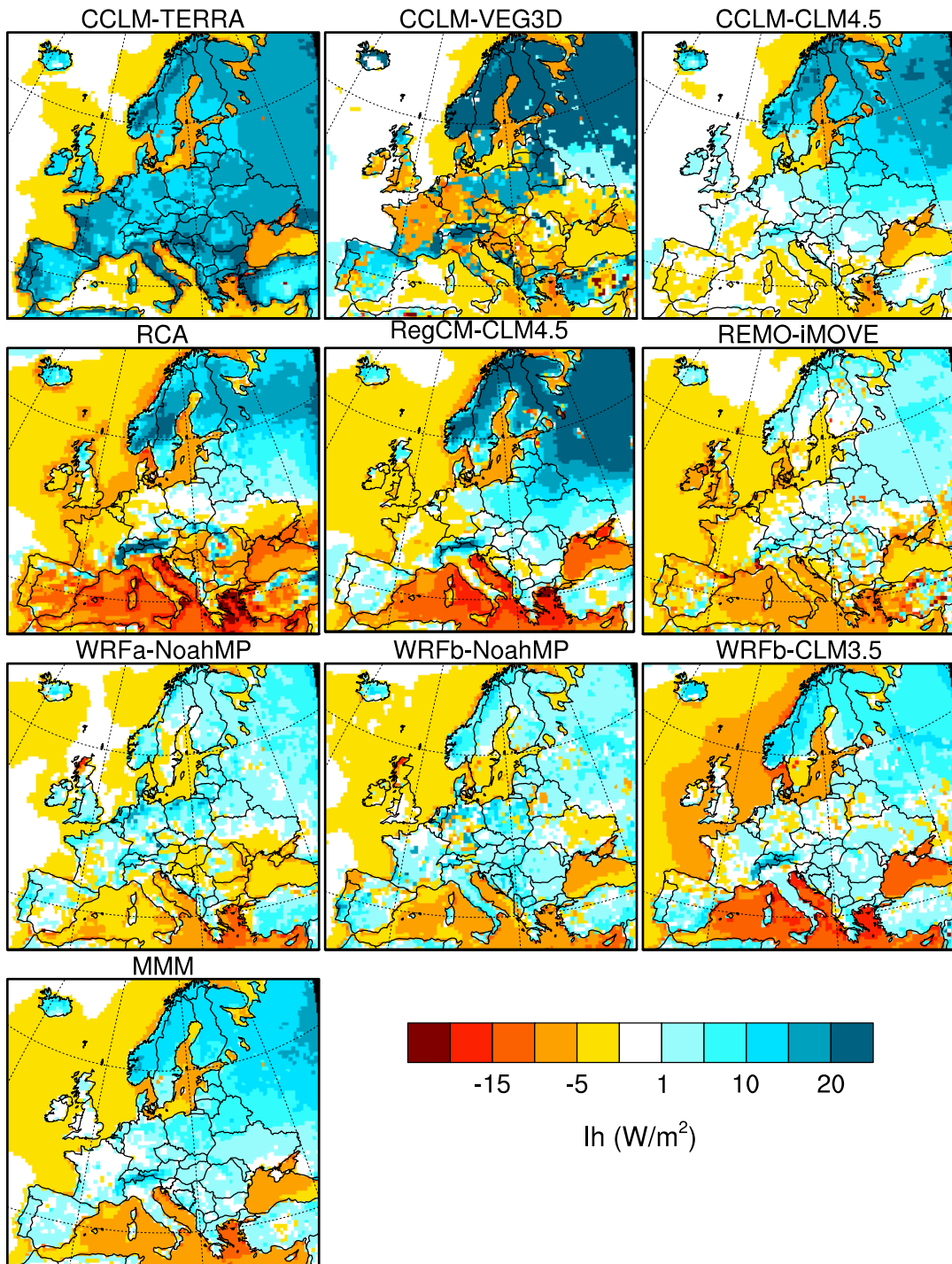
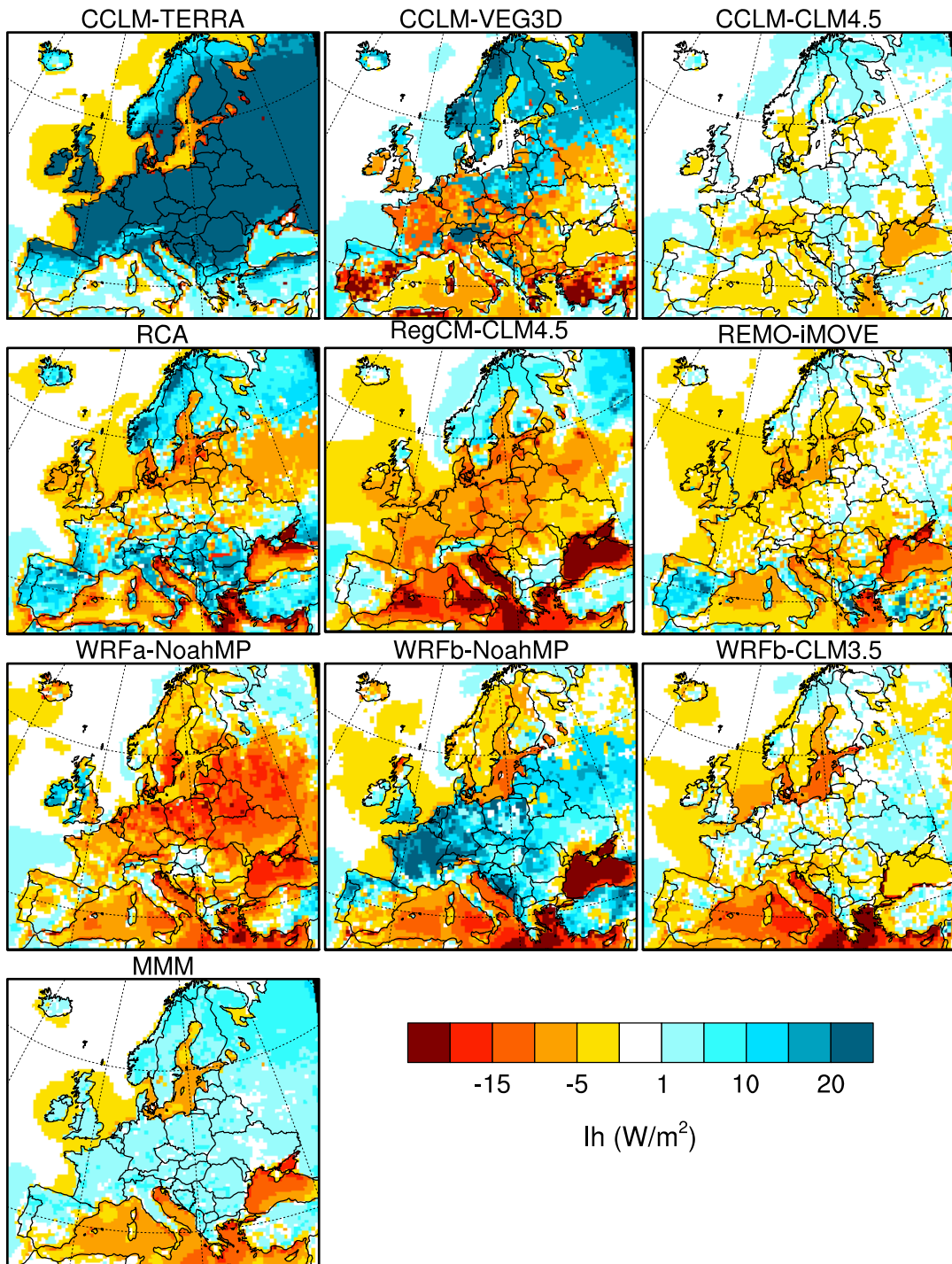
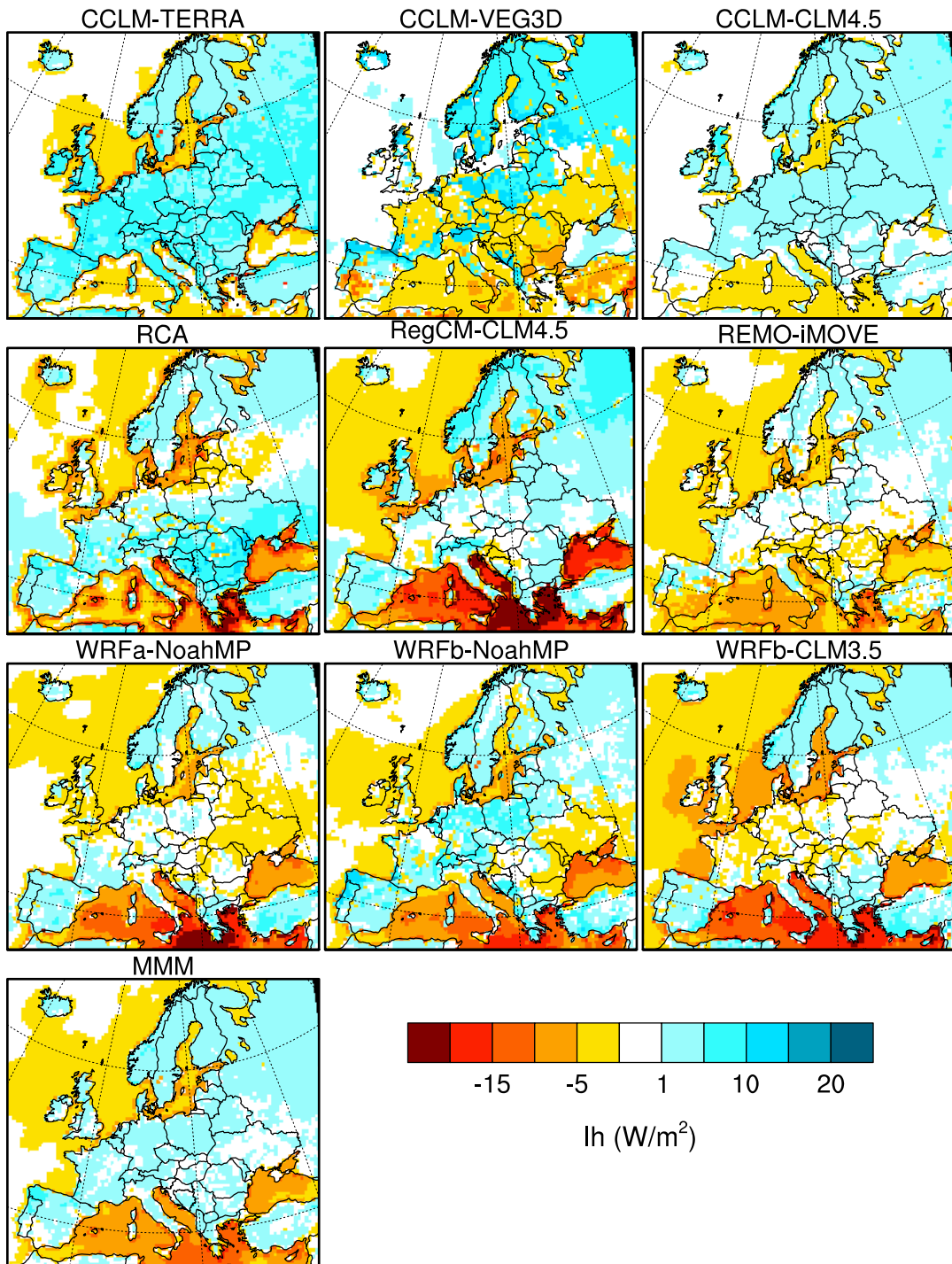


Figure S11. Latent heat flux (FOREST minus GRASS). Here for DJF; next pages for MAM, JJA and SON.



MAM





SON

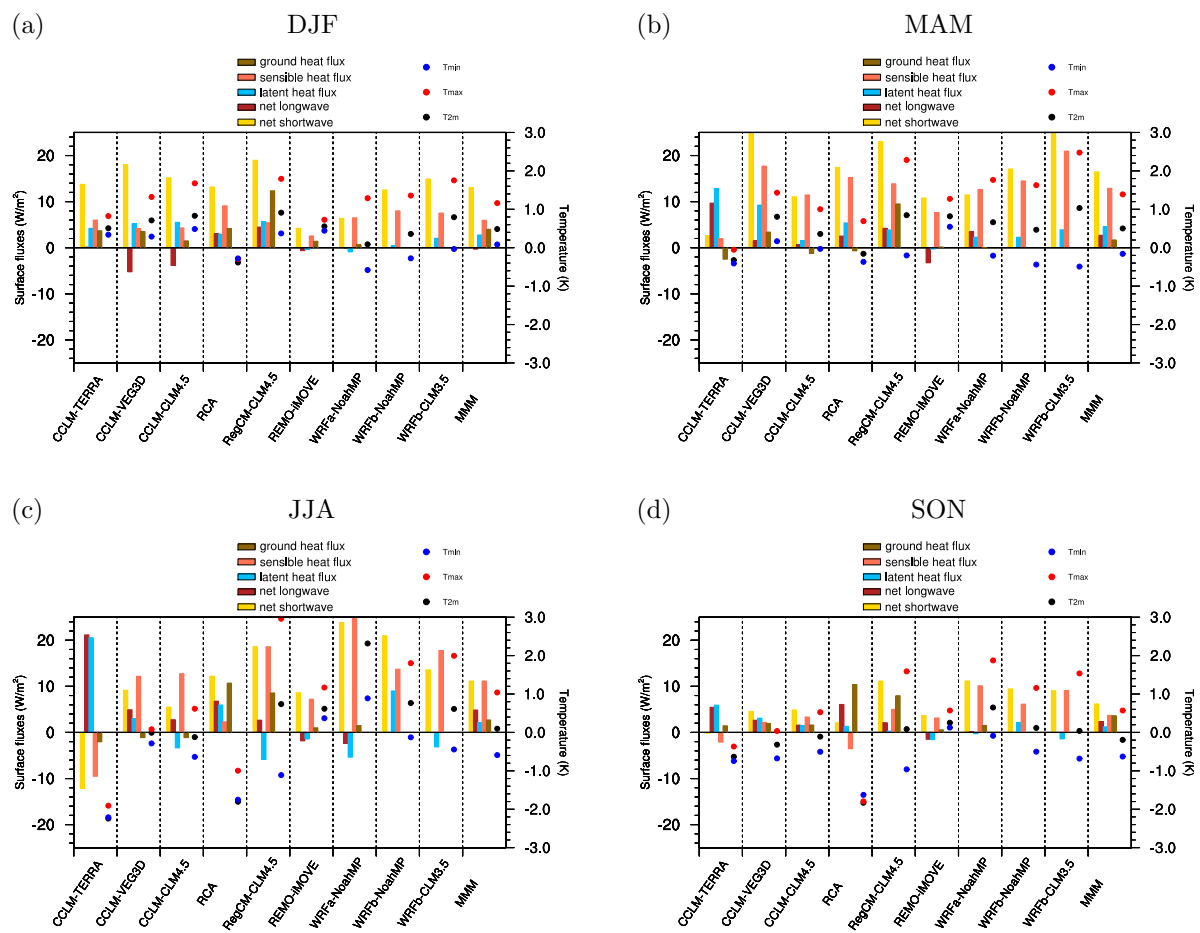


Figure S12. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over the Alps (AL) for DJF, MAM, JJA and SON.

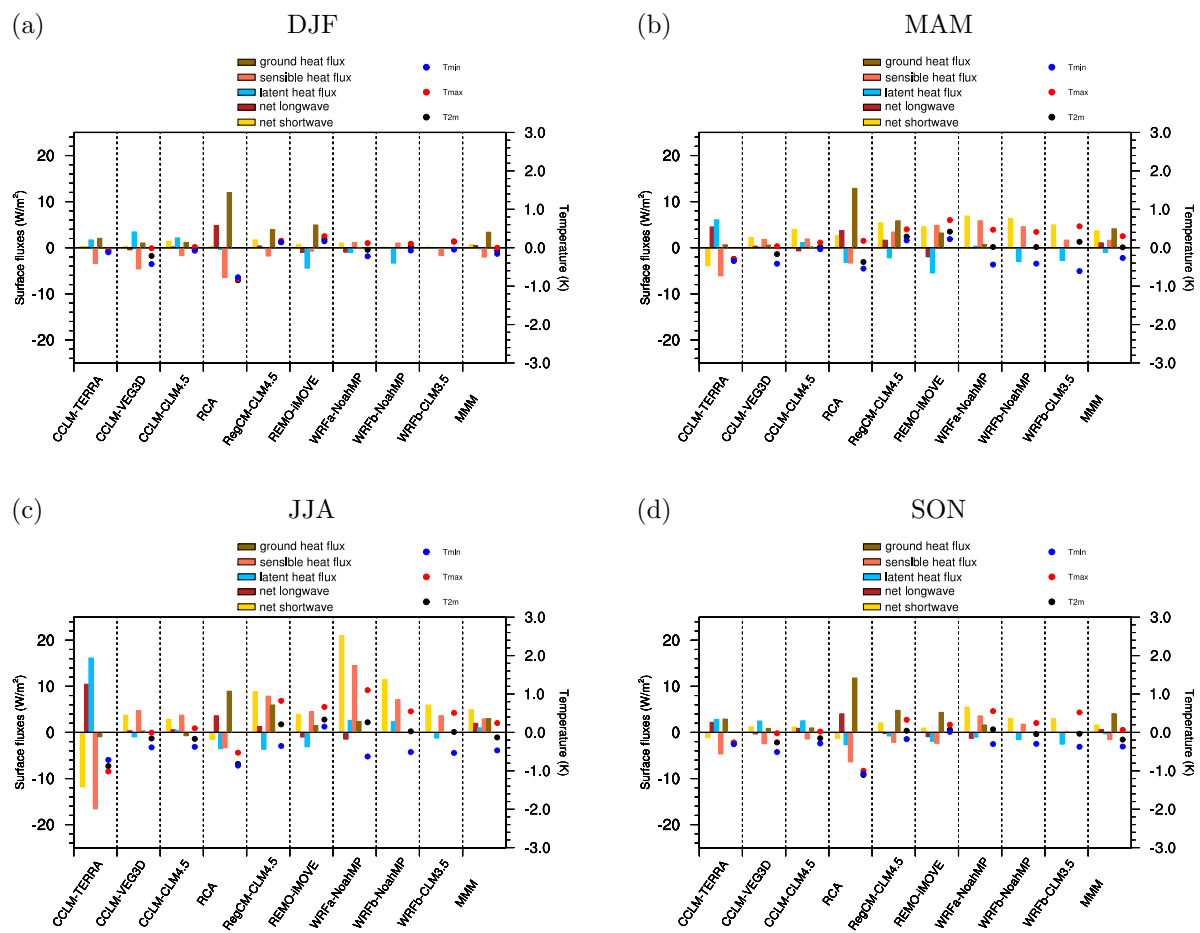


Figure S13. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over the British Isles (BI) for DJF, MAM, JJA and SON.

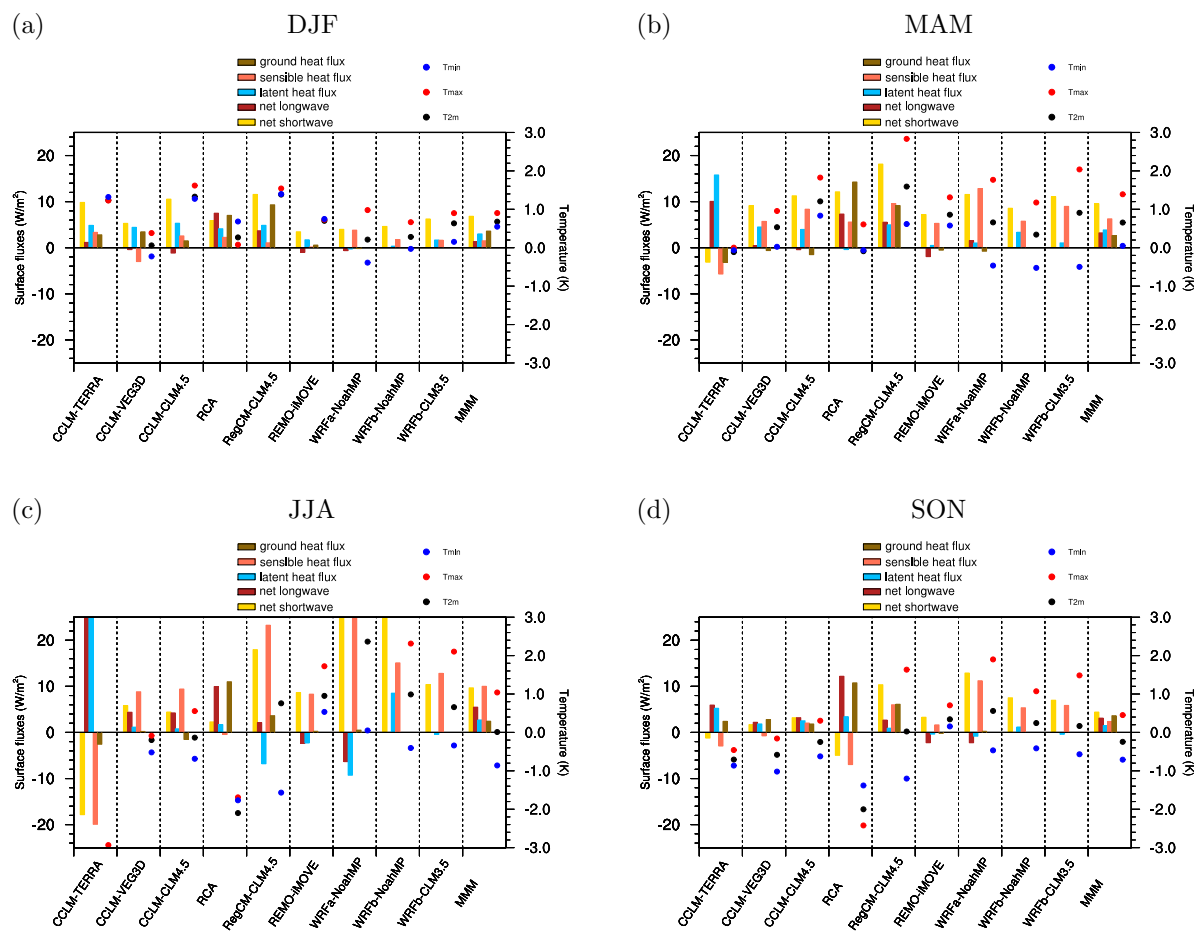


Figure S14. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over Eastern Europe (EA) for DJF, MAM, JJA and SON.

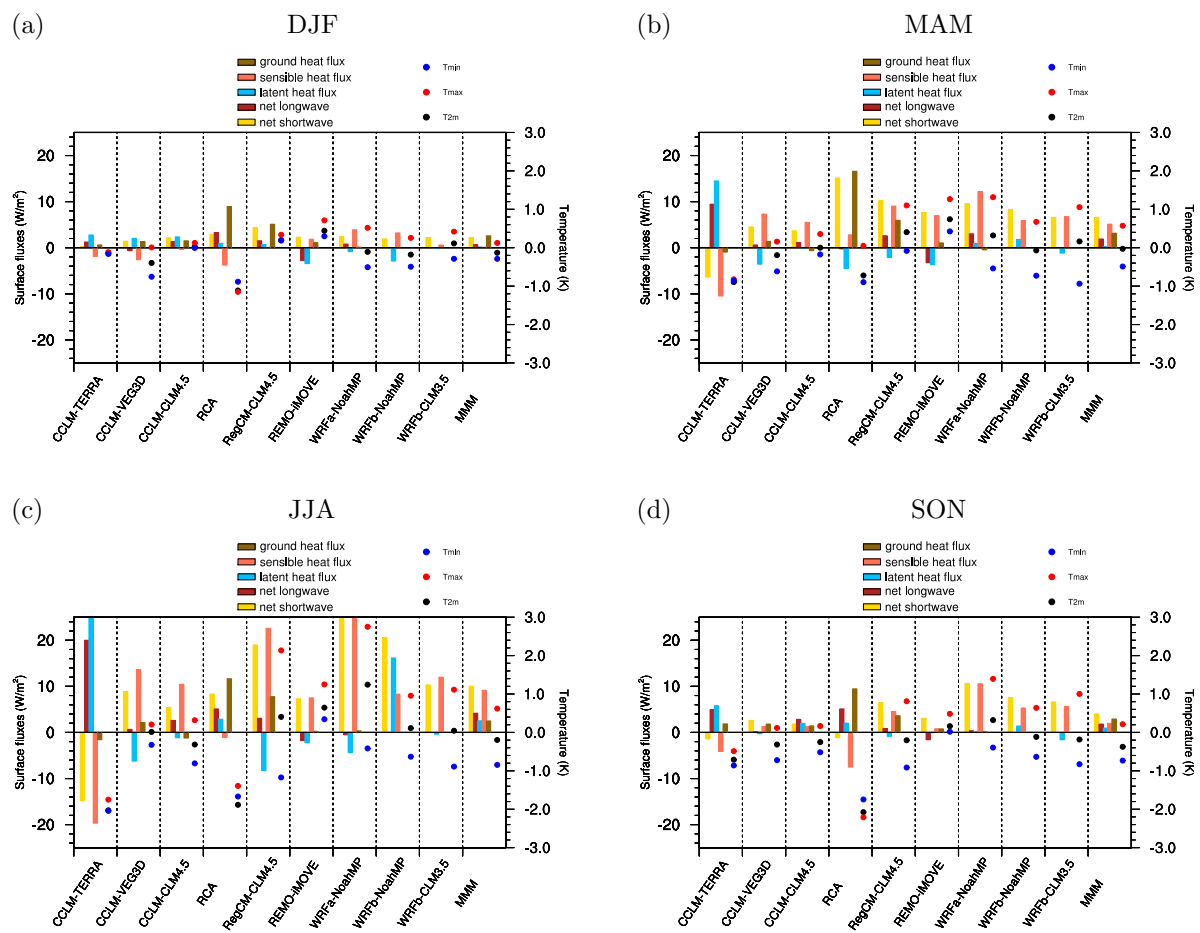


Figure S15. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over France (FR) for DJF, MAM, JJA and SON.

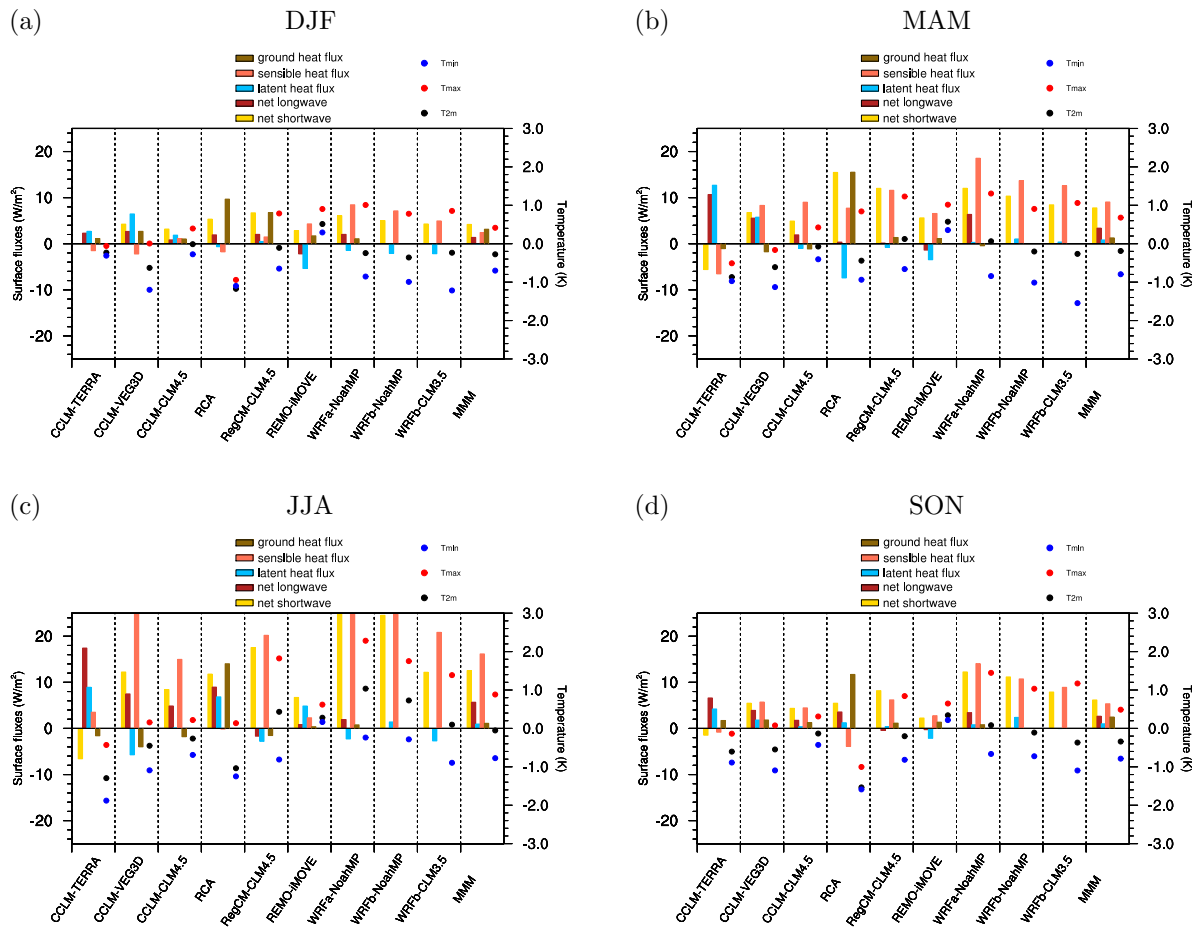


Figure S16. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over the Iberian Peninsula (IP) for DJF, MAM, JJA and SON.

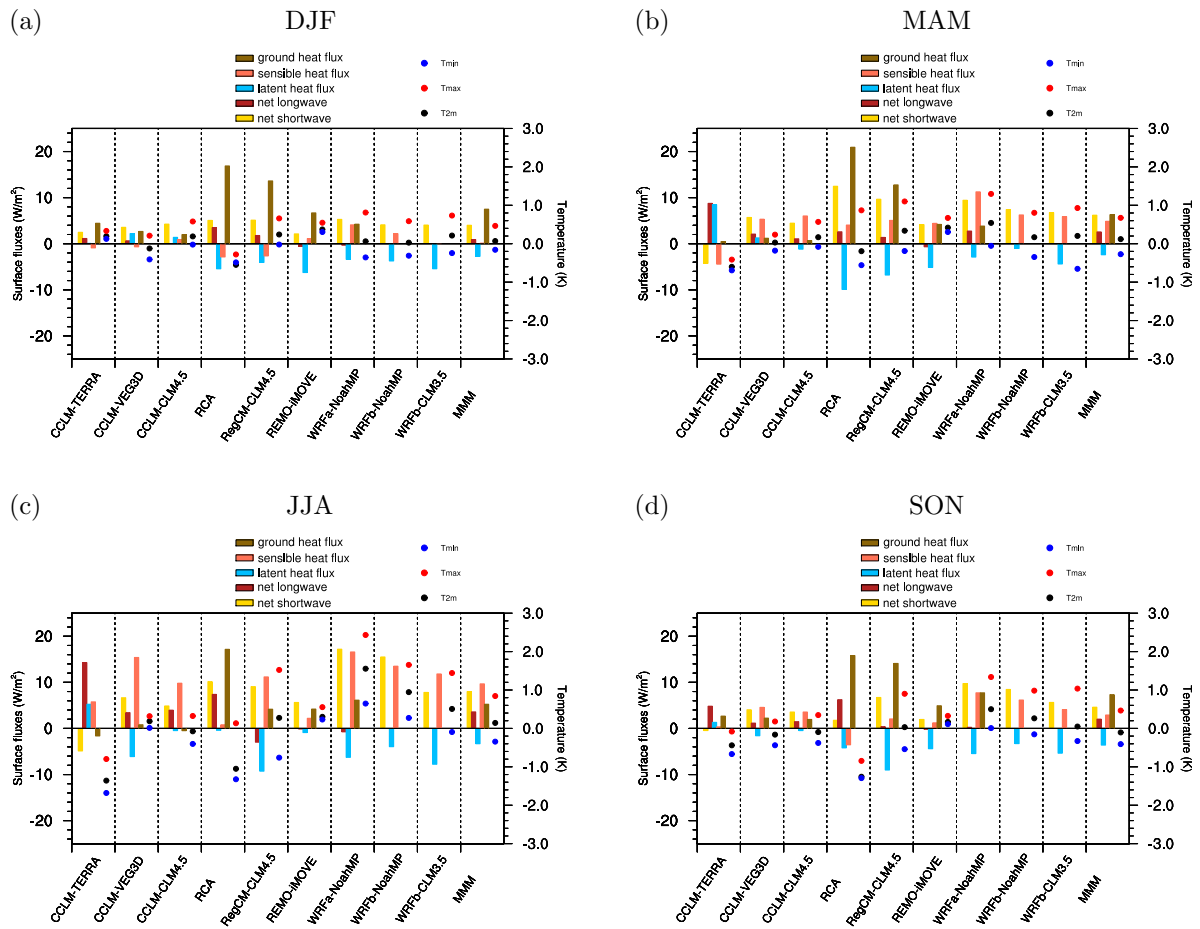


Figure S17. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over the Mediterranean (MD) for DJF, MAM, JJA and SON.

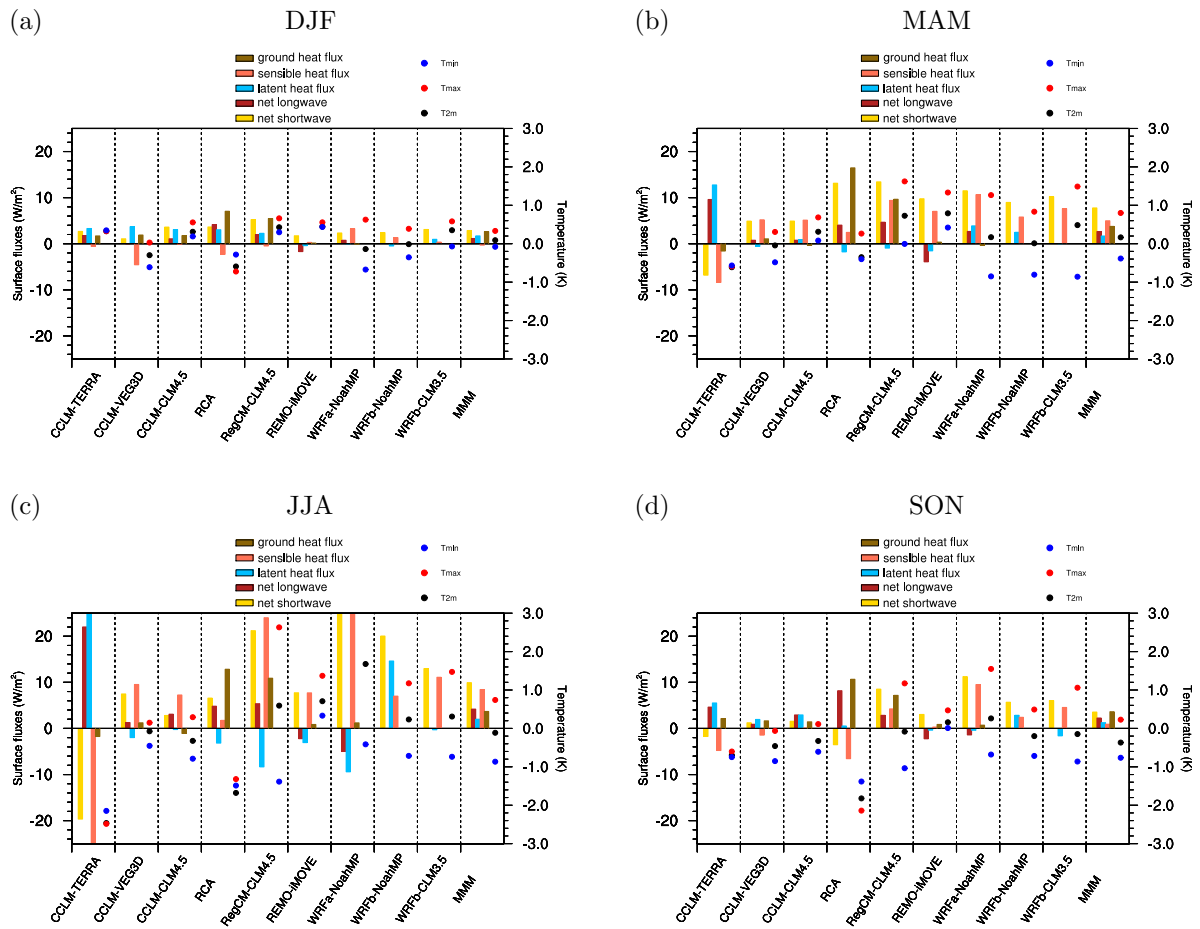


Figure S18. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over Mid-Europe (ME) for DJF, MAM, JJA and SON.

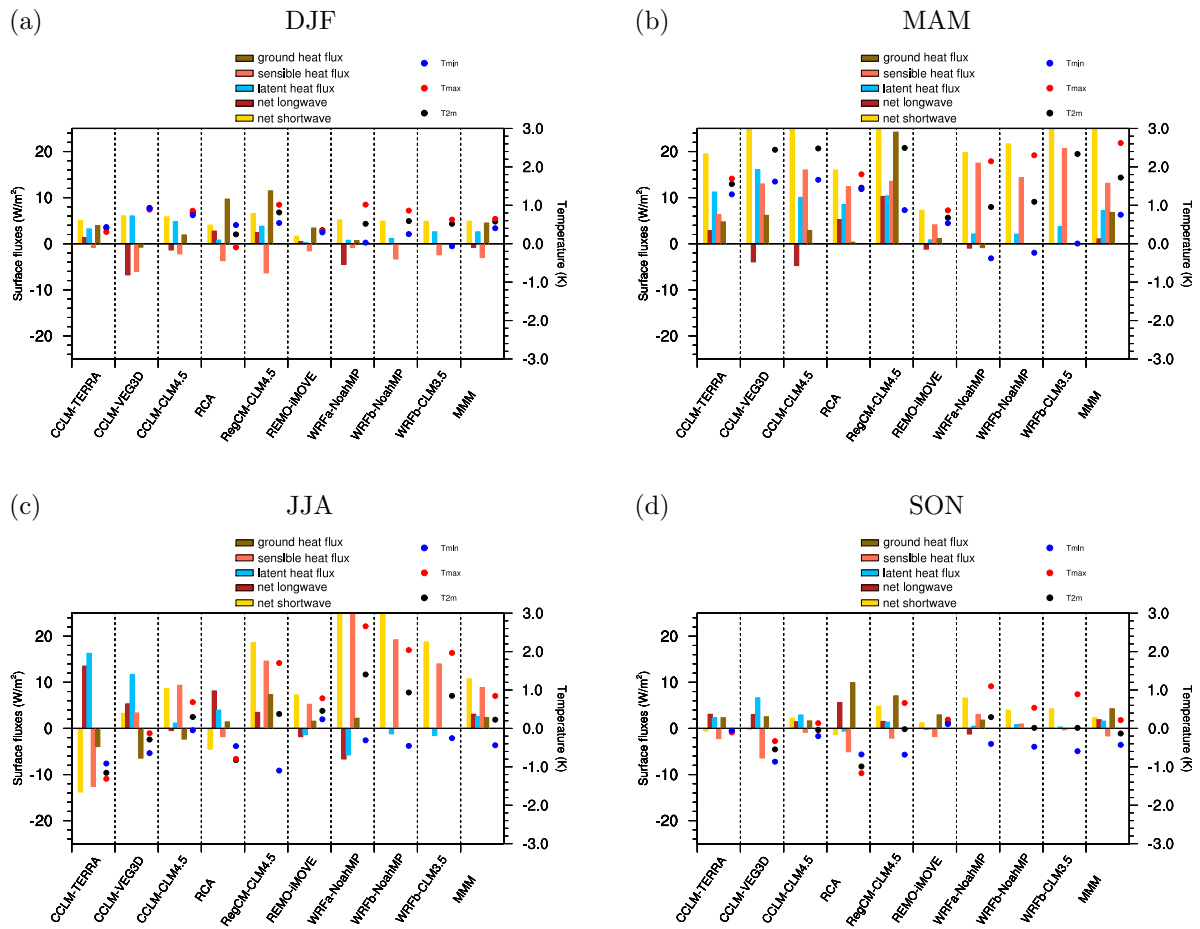


Figure S19. Changes in temperature and in surface energy balance components (FOREST minus GRASS) averaged over Scandinavia (SC) for DJF, MAM, JJA and SON.

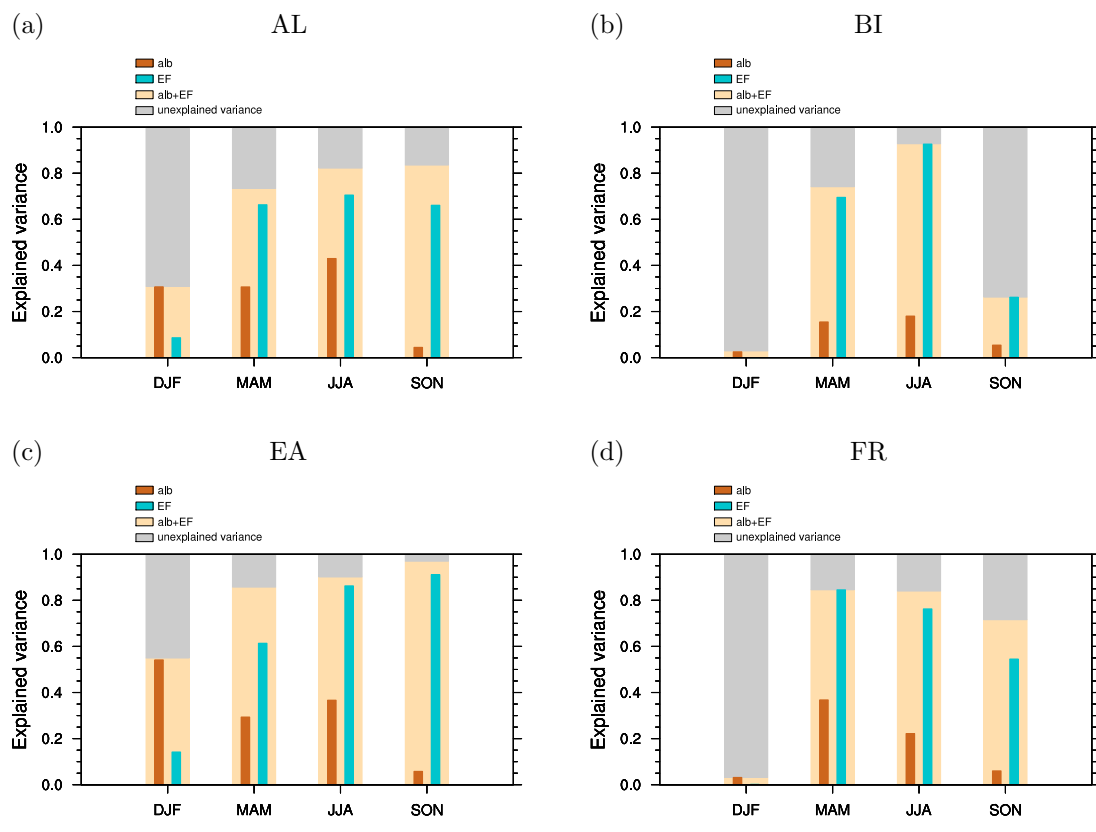


Figure S20. Analysis of the inter-model variance in surface temperature difference as explained by albedo change, evaporative fraction change or both combined. Alb: inter-model correlation (Rsquared) between albedo change and temperate change. EF: inter-model correlation (Rsquared) between albedo change and temperate change. Alb+EF: Rsquared of a multi-linear regression with both albedo change and EF change as predictors. Unexplained variance: 1-R2.

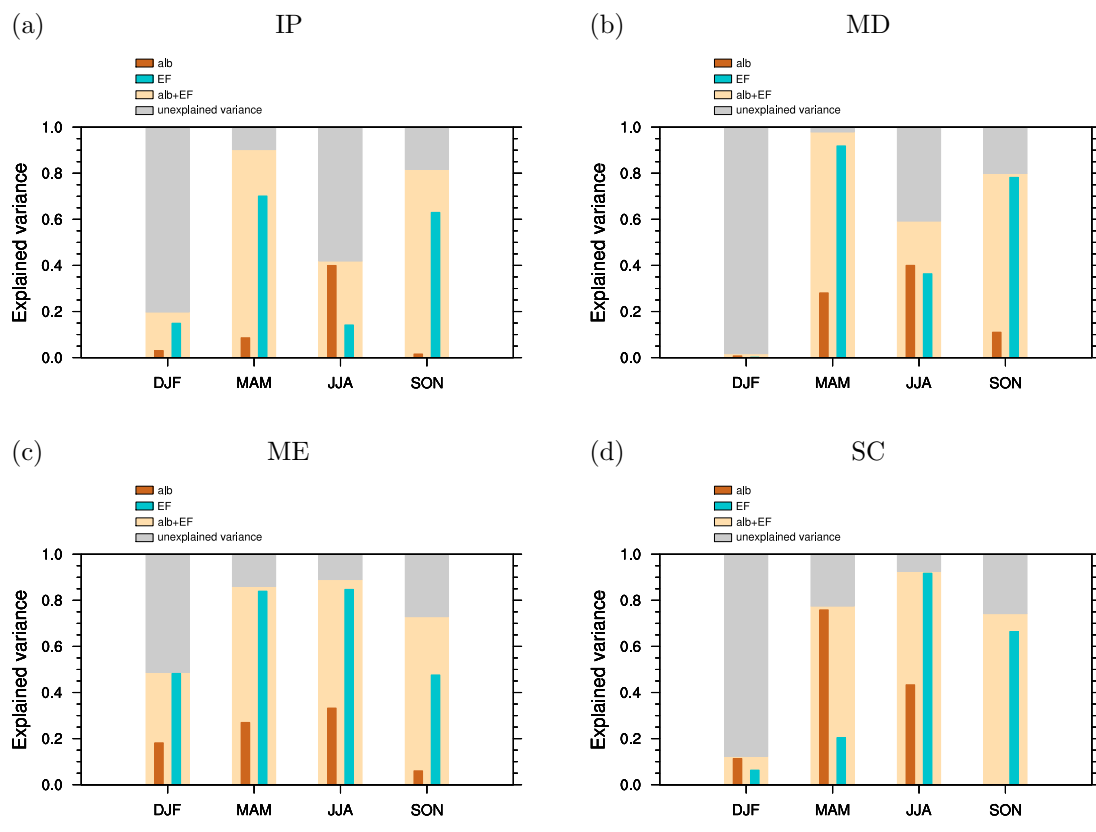


Figure S21. Analysis of the inter-model variance in surface temperature difference as explained by albedo change, evaporative fraction change or both combined. Alb: inter-model correlation (Rsquared) between albedo change and temperate change. EF: inter-model correlation (Rsquared) between albedo change and temperate change. Alb+EF: Rsquared of a multi-linear regression with both albedo change and EF change as predictors. Unexplained variance: 1-R2.