Appendix A. Supplementary figures showing the influence of an assumed constant, and LAI dependent, maximum plot evapotranspiration rate on forest development, and figures projecting the impact of thinning on forest dynamics under current, RCP3PD, A1B, and A2 climate scenarios.

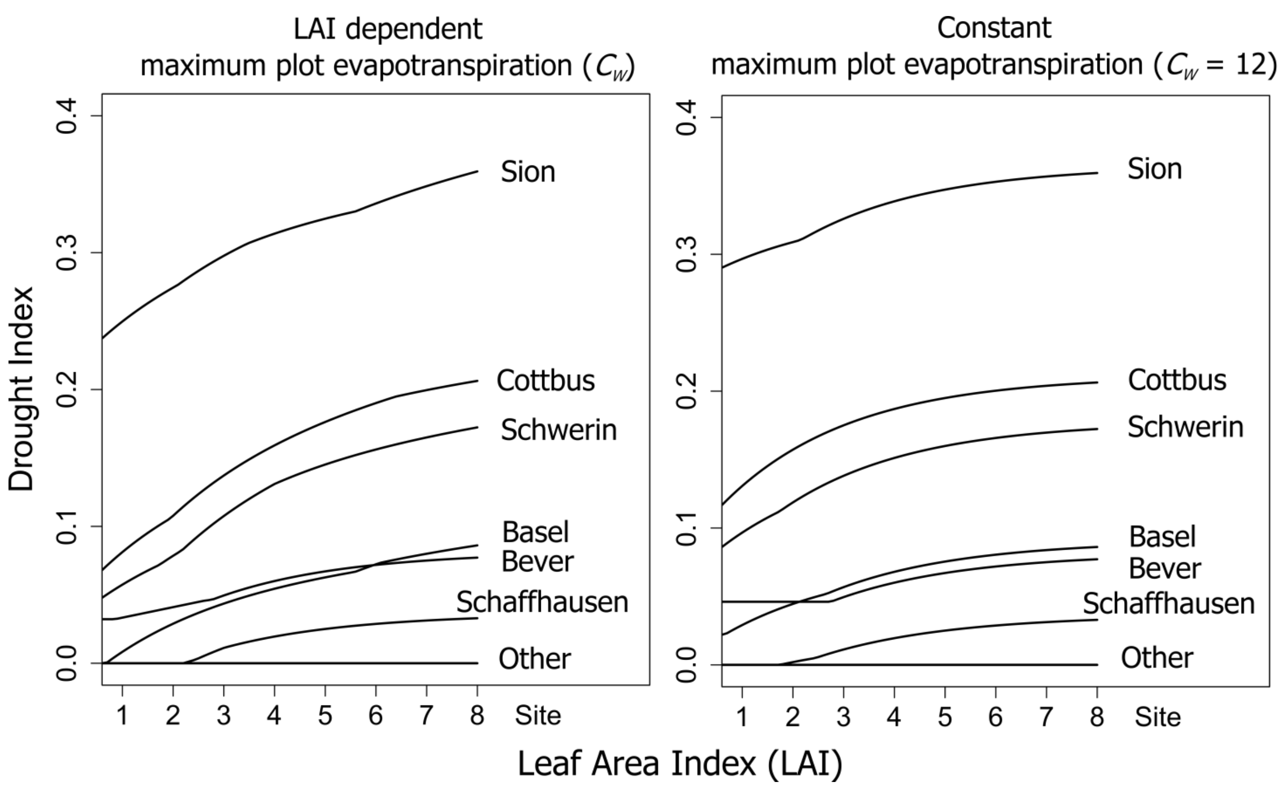

FIG. A1. Simulated drought index as a function of leaf area indexes across 10 case study regions that represent a precipitation and temperature gradient that ranges from wet (Other: Davos, GrandDixence, Huttwil, Bern) to dry sites (Sion). Results from simulations that assume an LAI dependent, and constant, maximum plot evapotranspiration rate are shown.

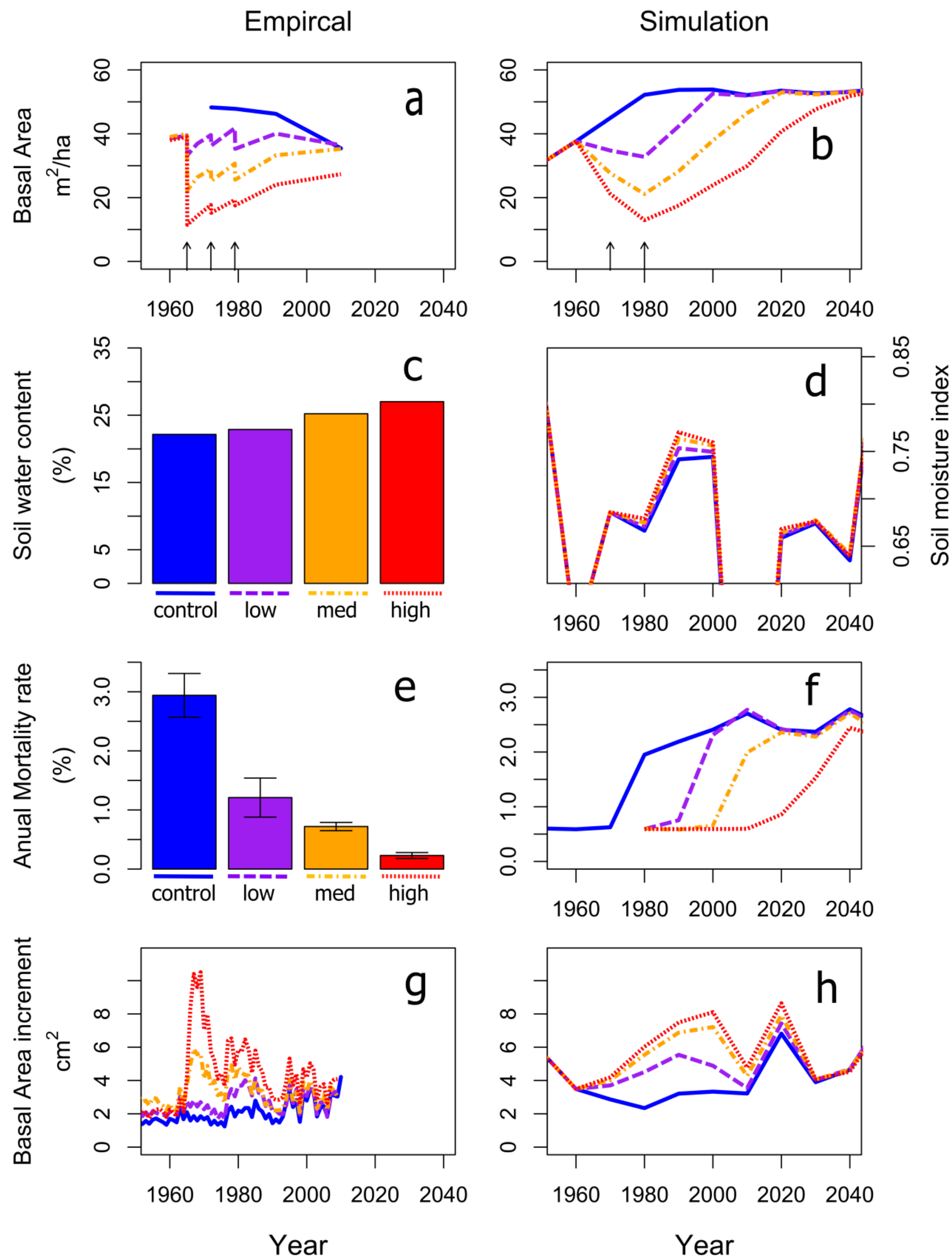

FIG. A2. Comparison of low, medium, heavy and control thinning treatments on forest basal area, soil water content, annual mortality rate of Scots pine, and annual basal area increment in empirical (a,c,e,g) and simulated forest stands (b,d,f,h). Simulation results are from model versions that assume the maximum plot transpiration rate is constant and independent of LAI (i.e. $C_W = 12$).

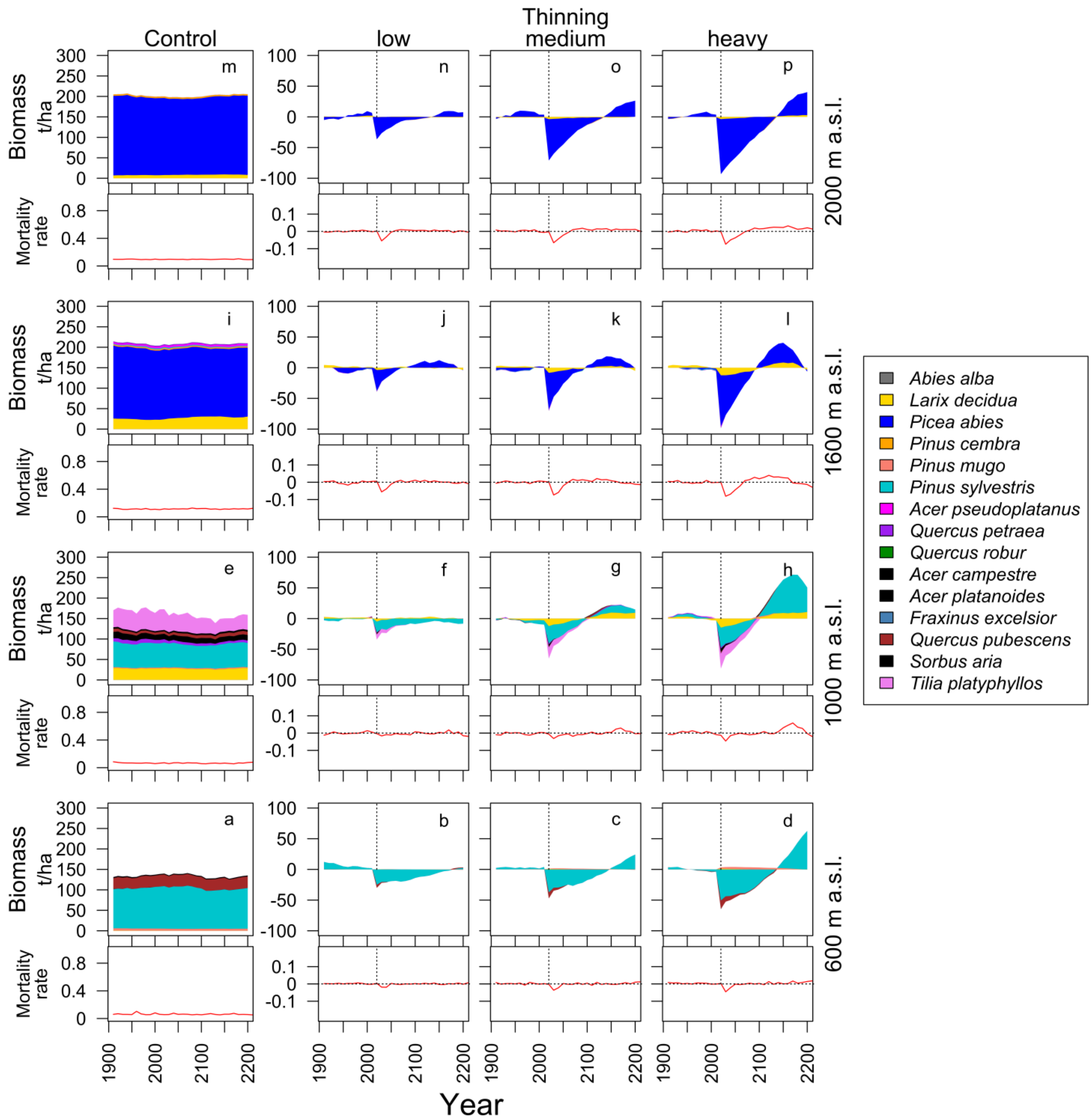

FIG. A3. Projected impact of low, medium and heavy thinning treatments performed in 2020, on tree species biomass and tree mortality rate under a projected continuation of current climate conditions.

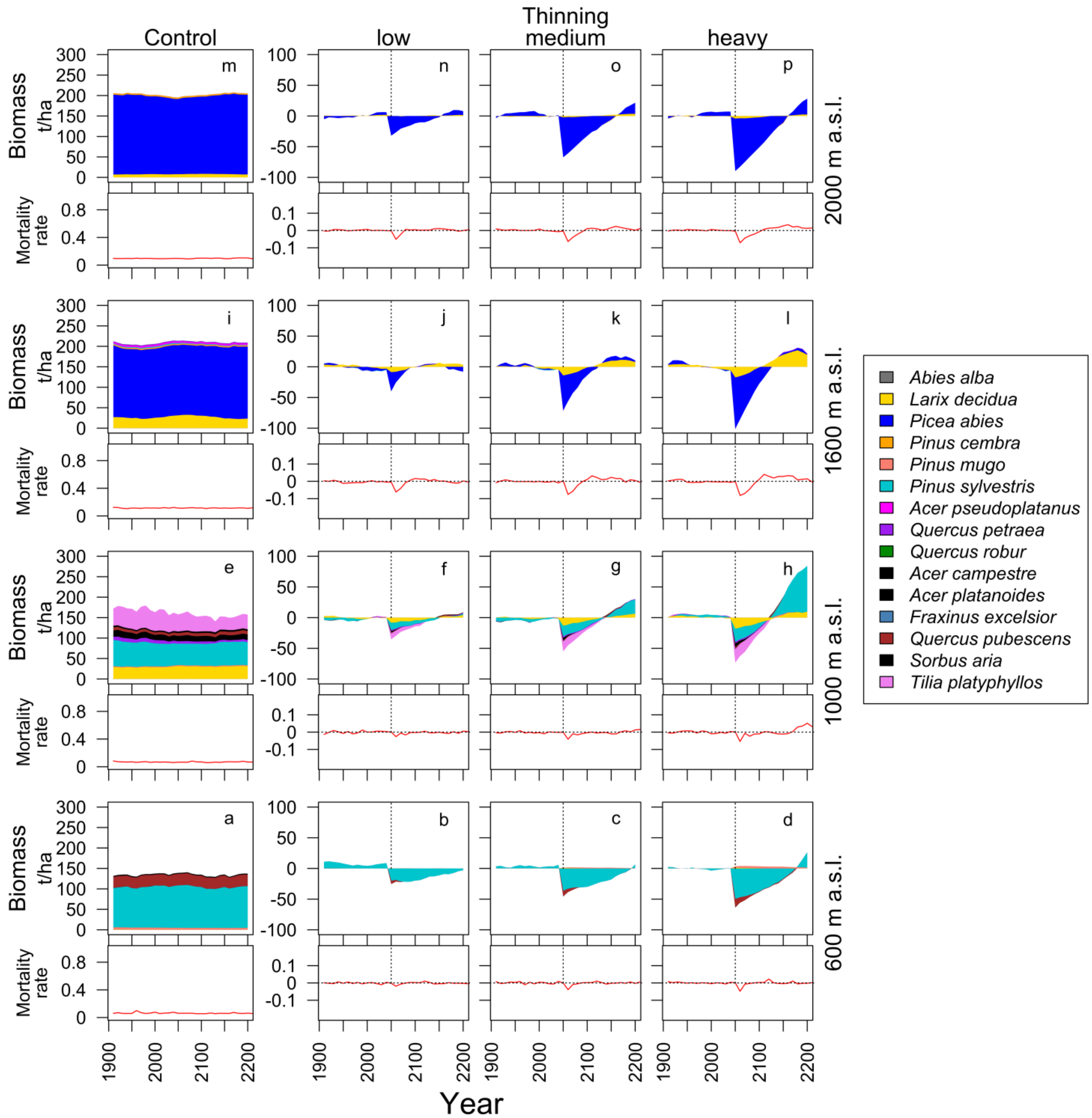

FIG. A4. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under a projected continuation of current climate conditions.

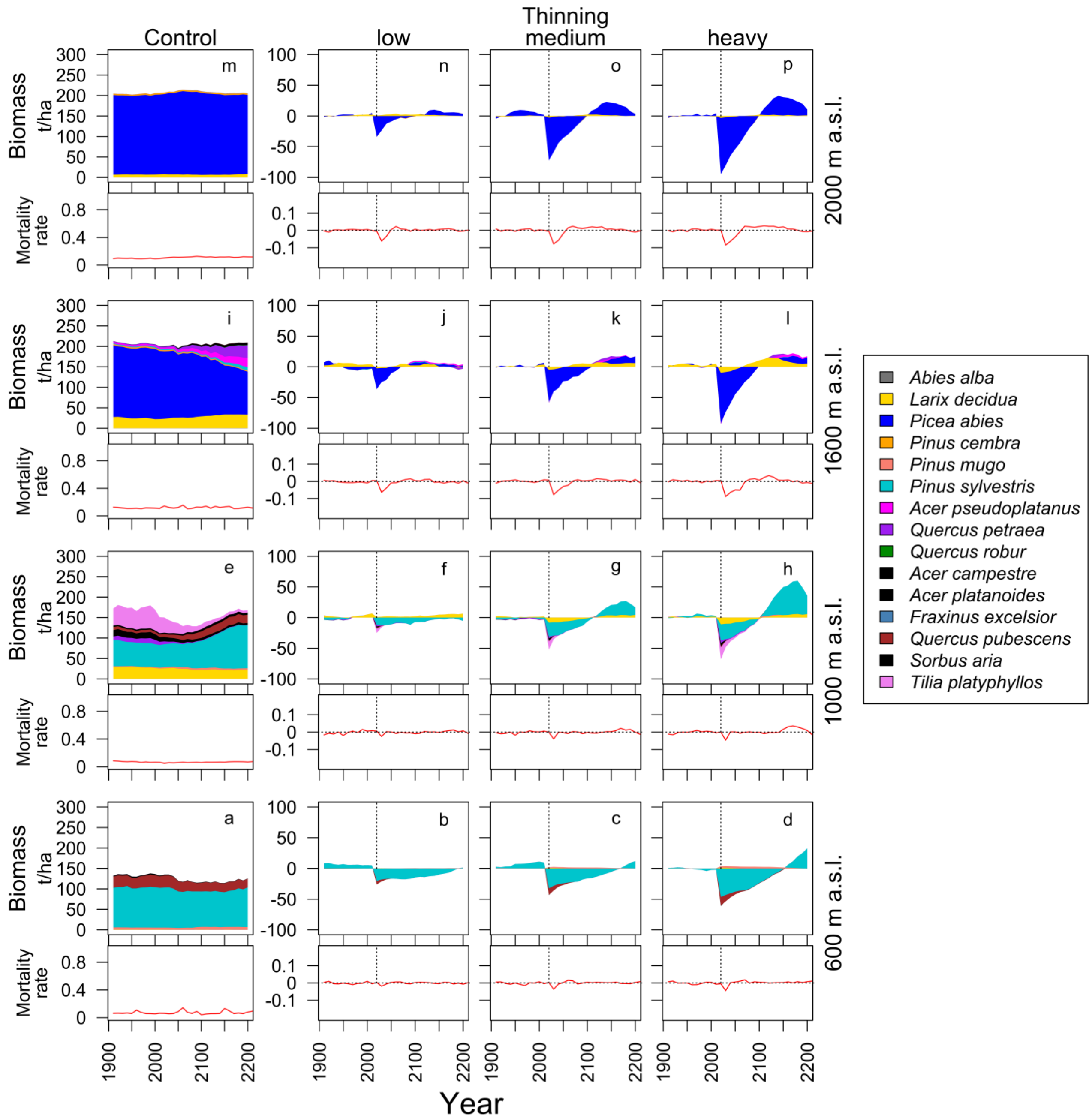

FIG. A5. Projected impact of low, medium and heavy thinning treatments performed in 2020, on tree species biomass and tree mortality rate under the RCP3PD climate scenario.

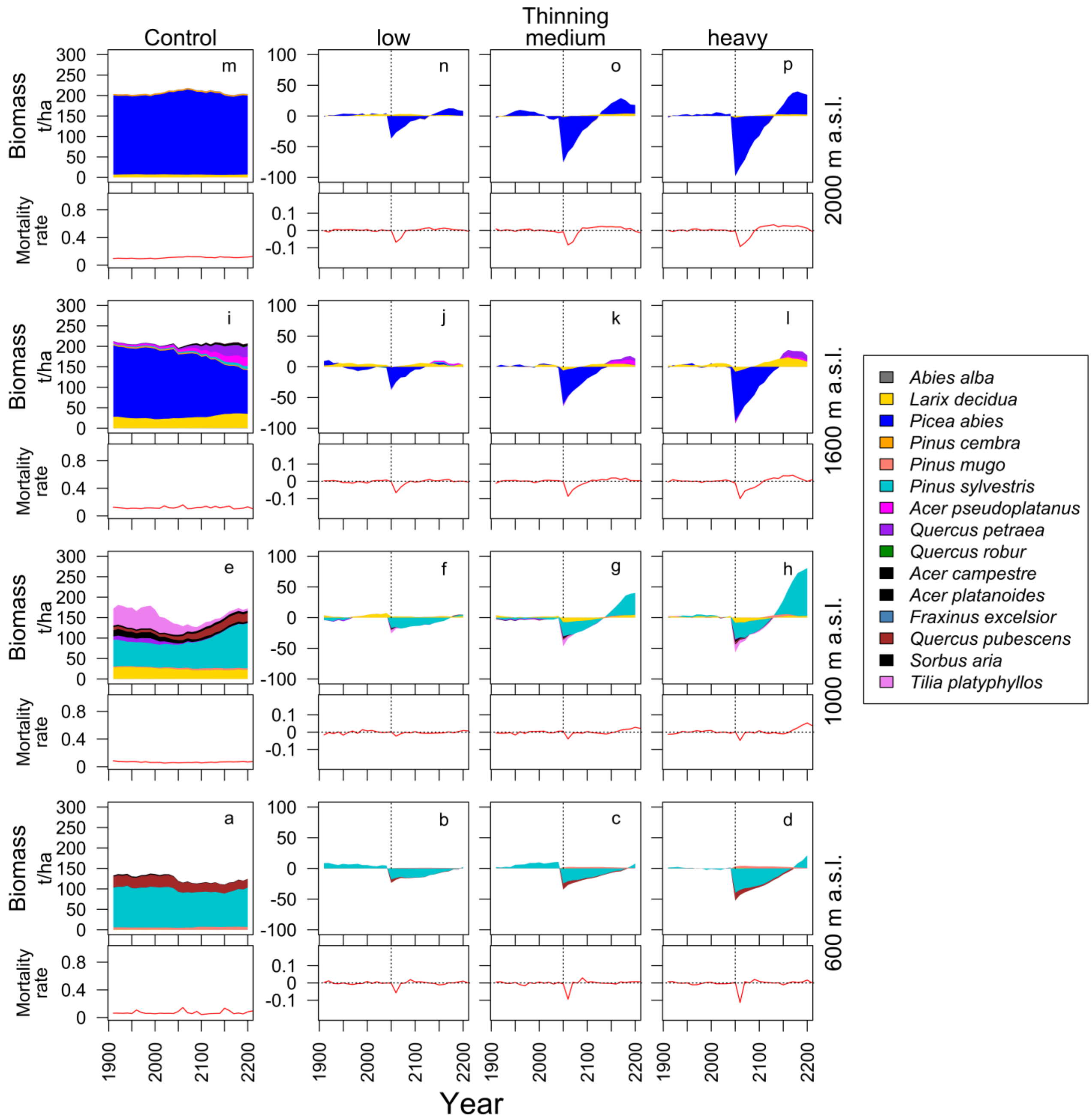

FIG. A6. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under the RCP3PD climate scenario.

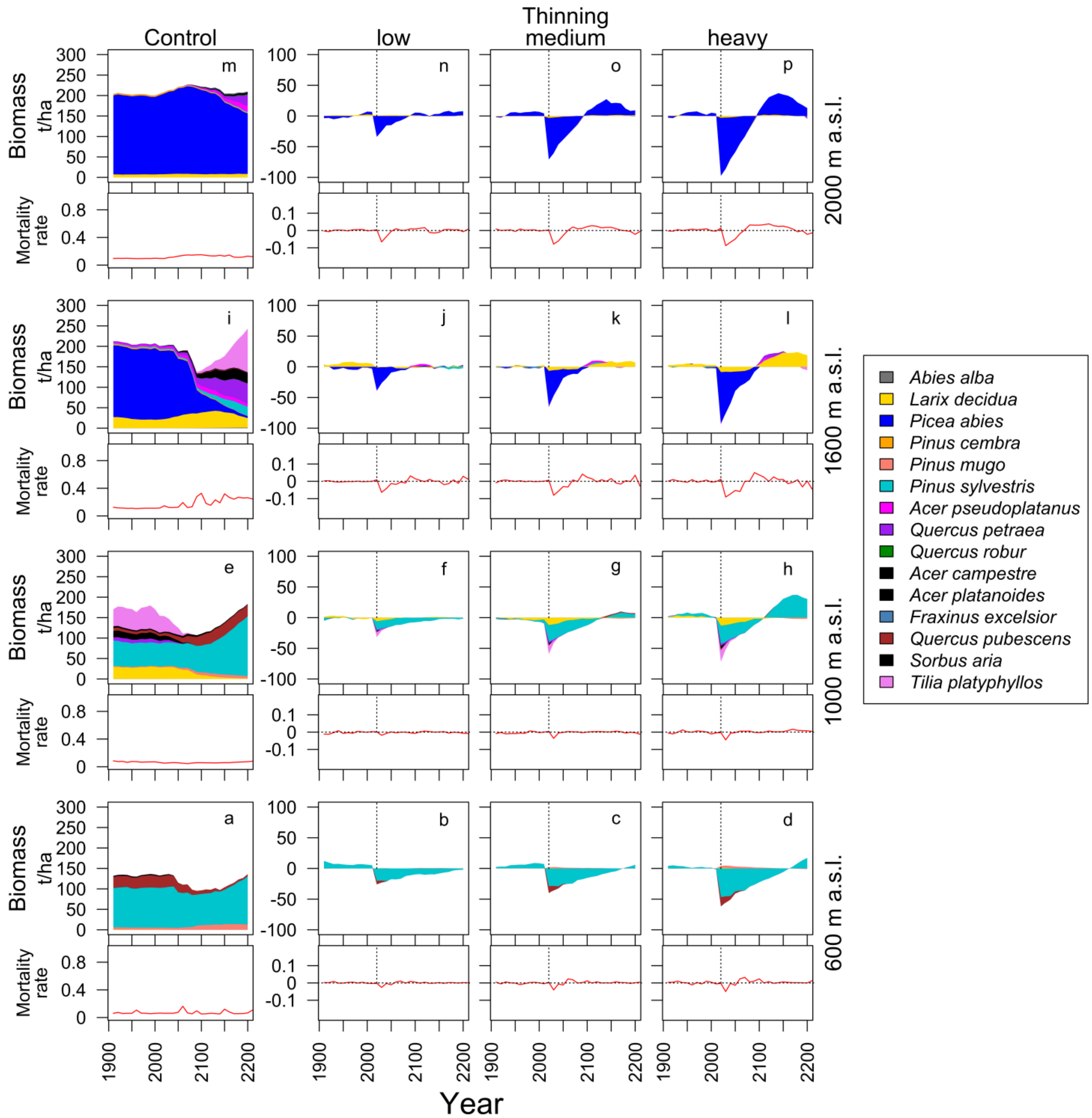

FIG. A7. Projected impact of low, medium and heavy thinning treatments performed in 2020, on tree species biomass and tree mortality rate under the A1B climate scenario.

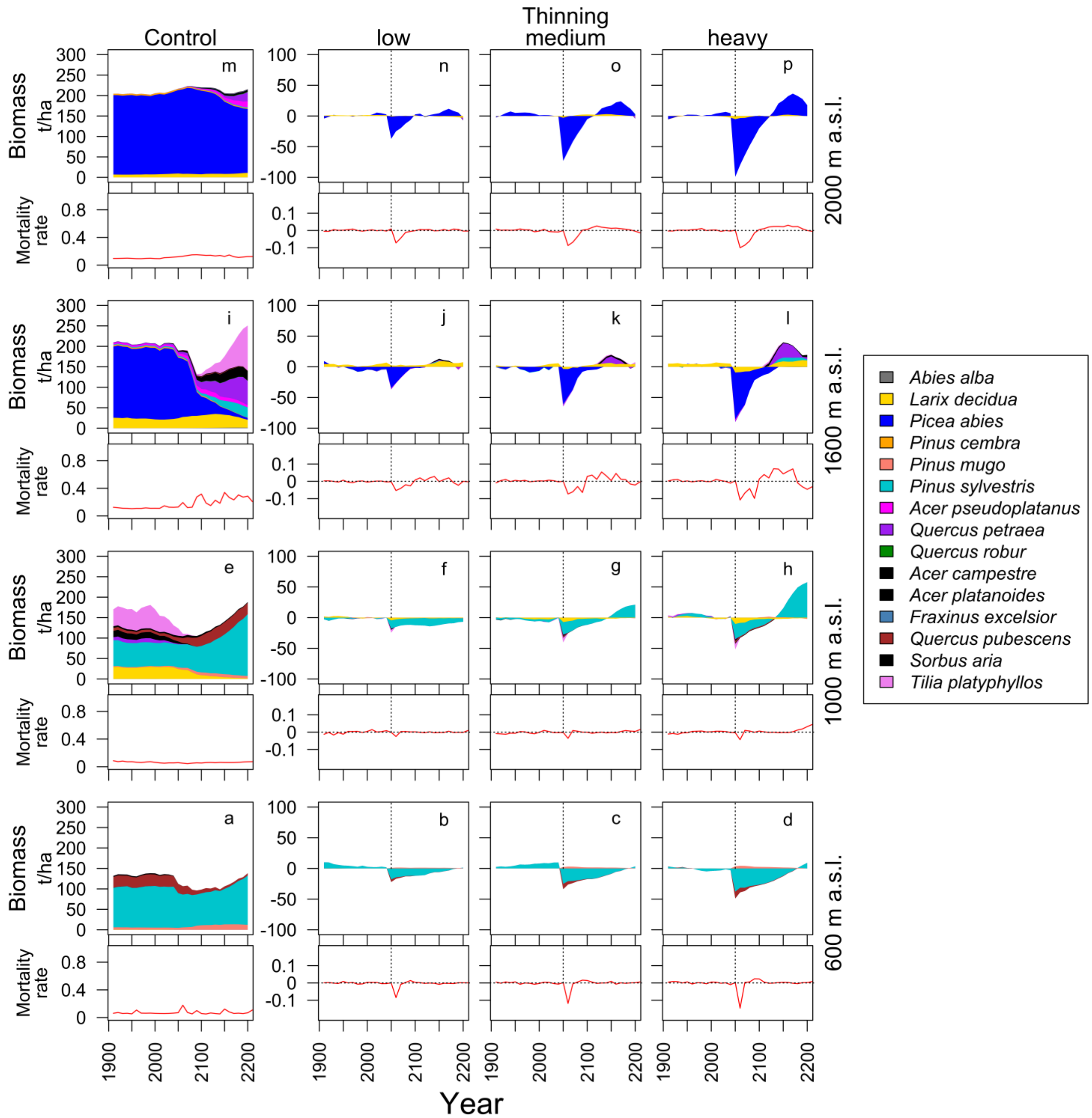

FIG. A8. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under the A1B climate scenario.

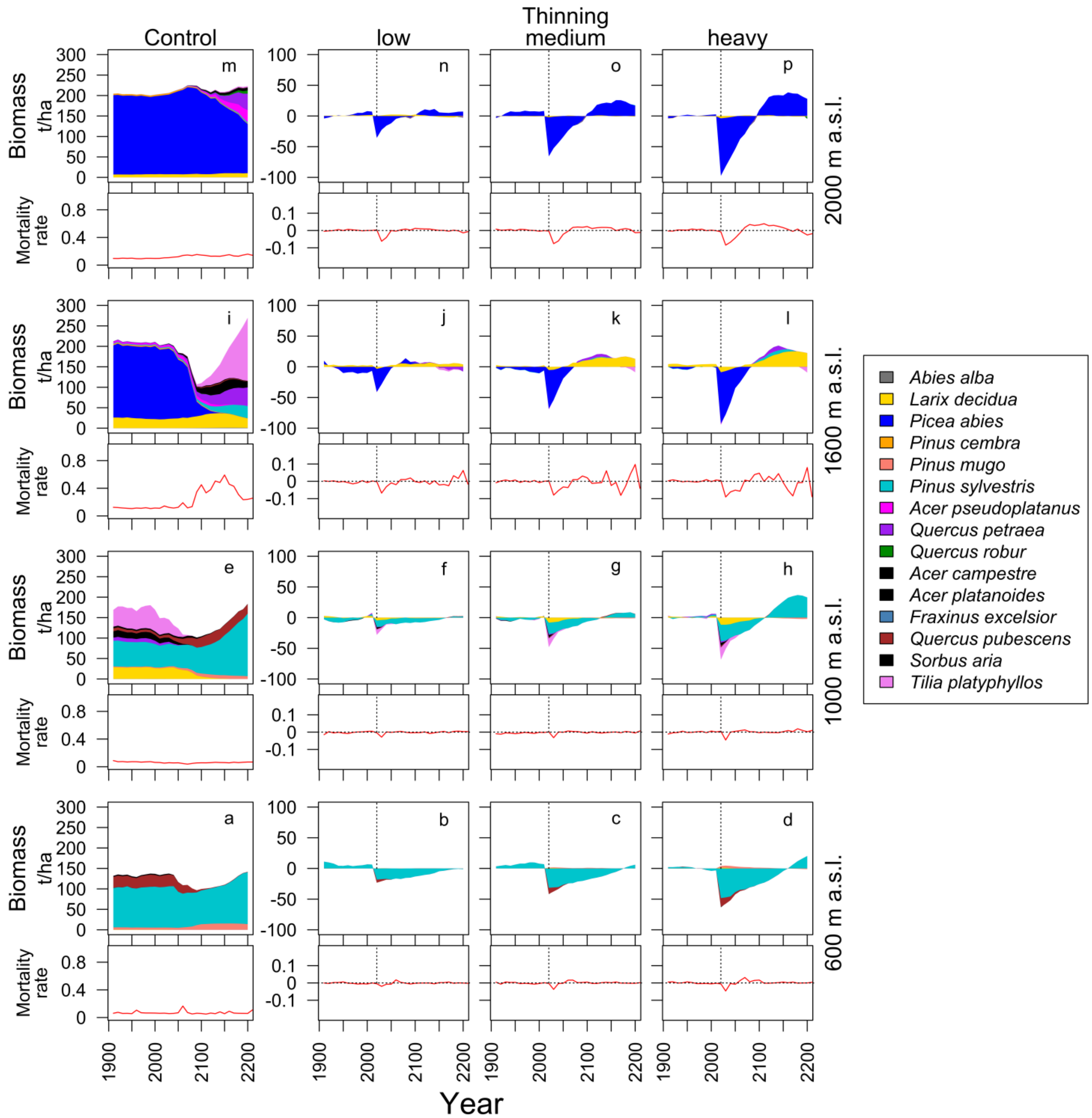

FIG. A9. Projected impact of low, medium and heavy thinning treatments performed in 2020, on tree species biomass and tree mortality rate under the A2 climate scenario.

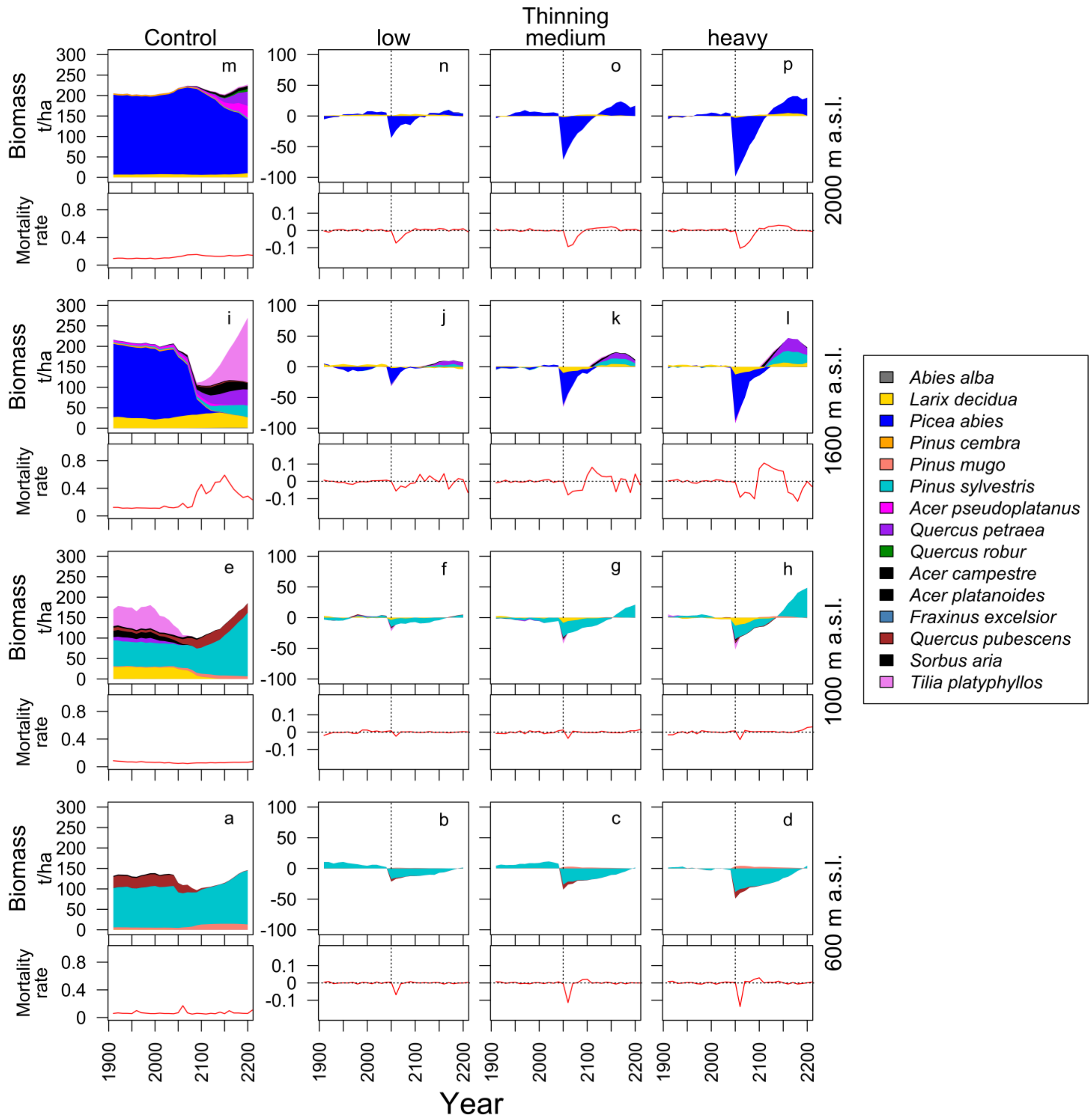

FIG. A10. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under the A2 climate scenario.

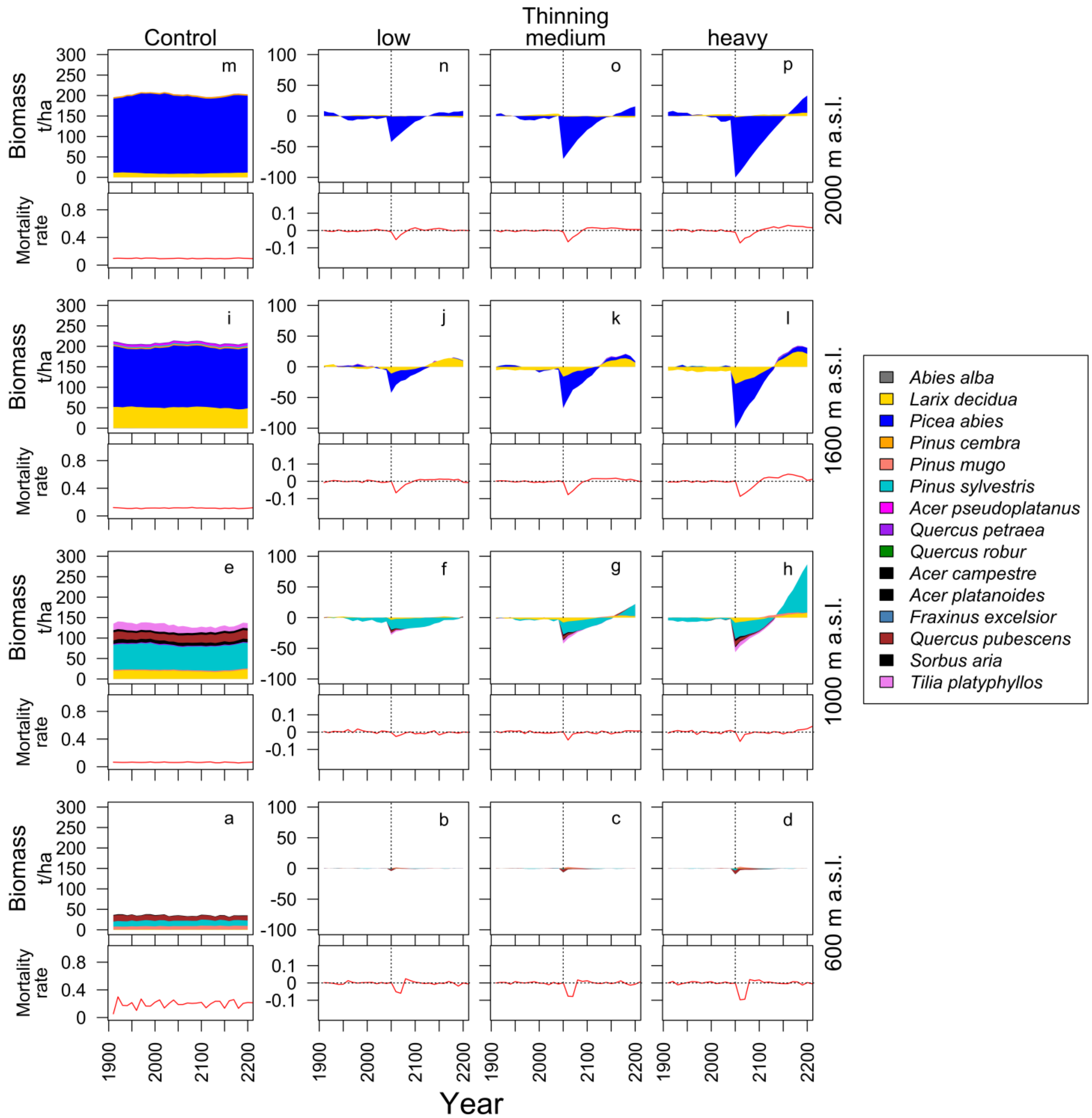

FIG. A11. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under a projected continuation of current climate conditions, from simulations that assume a constant maximum plot transpiration rate.

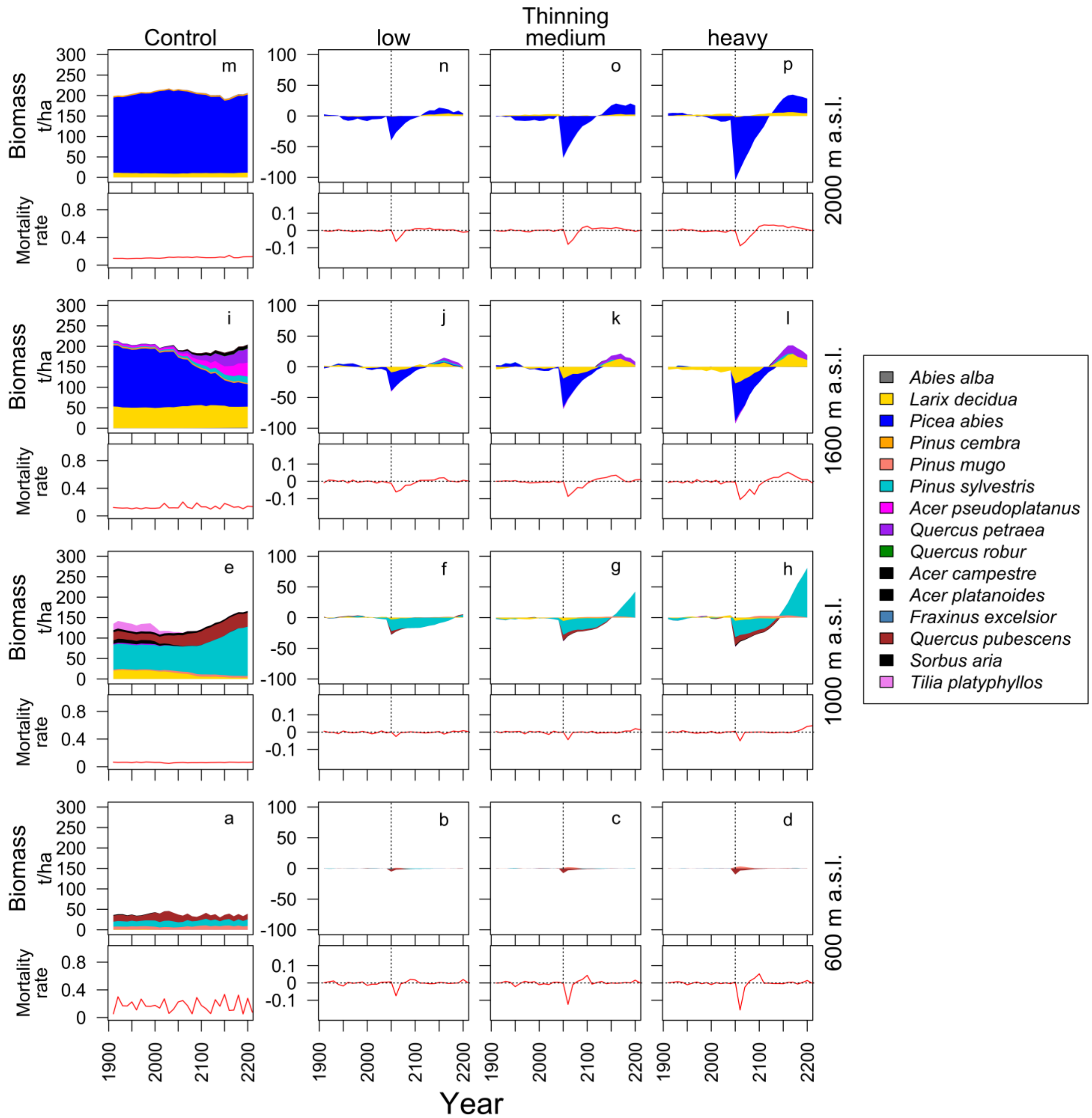

FIG. A12. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under the RCP3PD climate scenario, from simulations that assume a constant maximum plot transpiration rate.

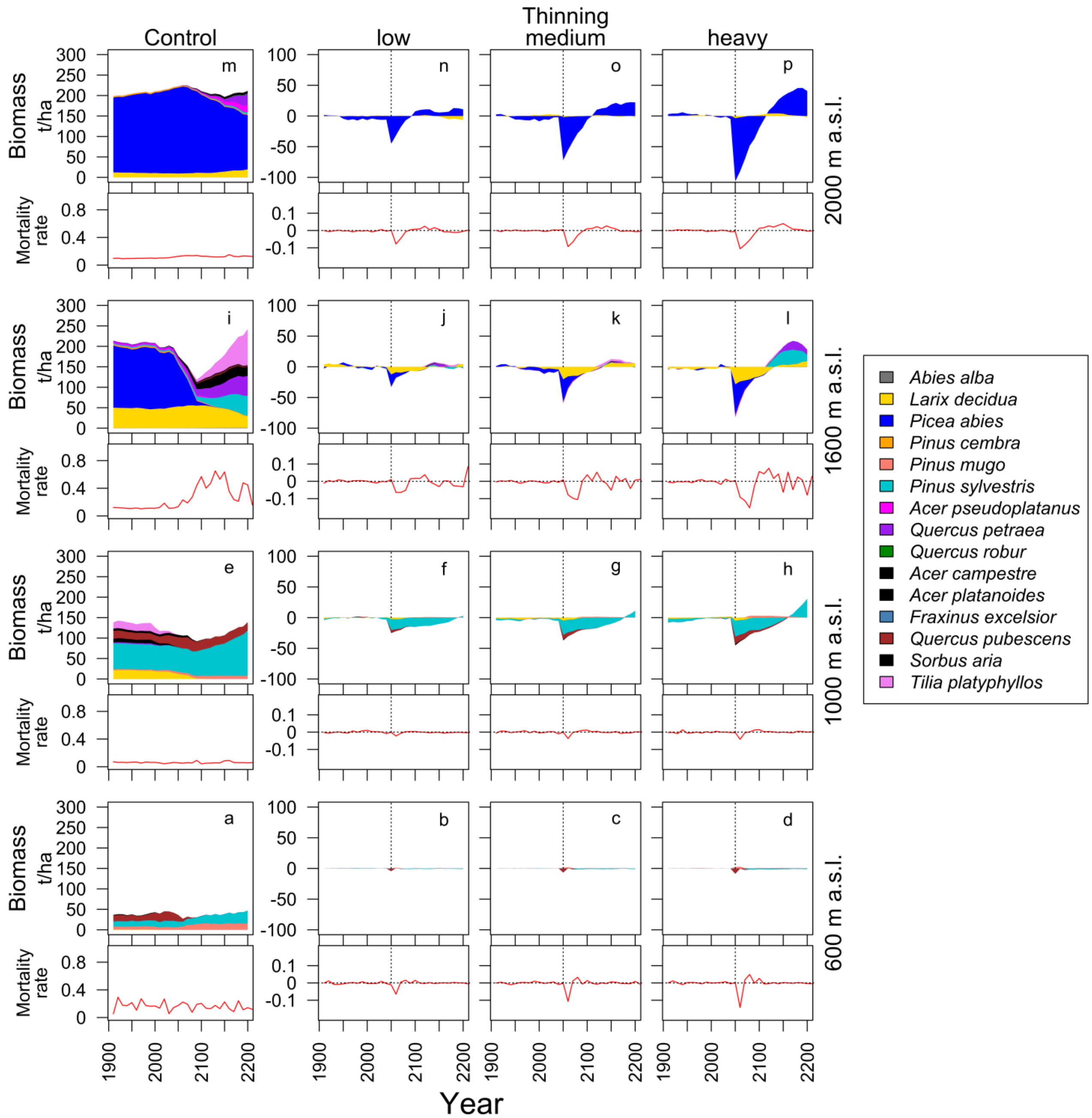

FIG. A13. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under the A1B climate scenario, from simulations that assume a constant maximum plot transpiration rate.

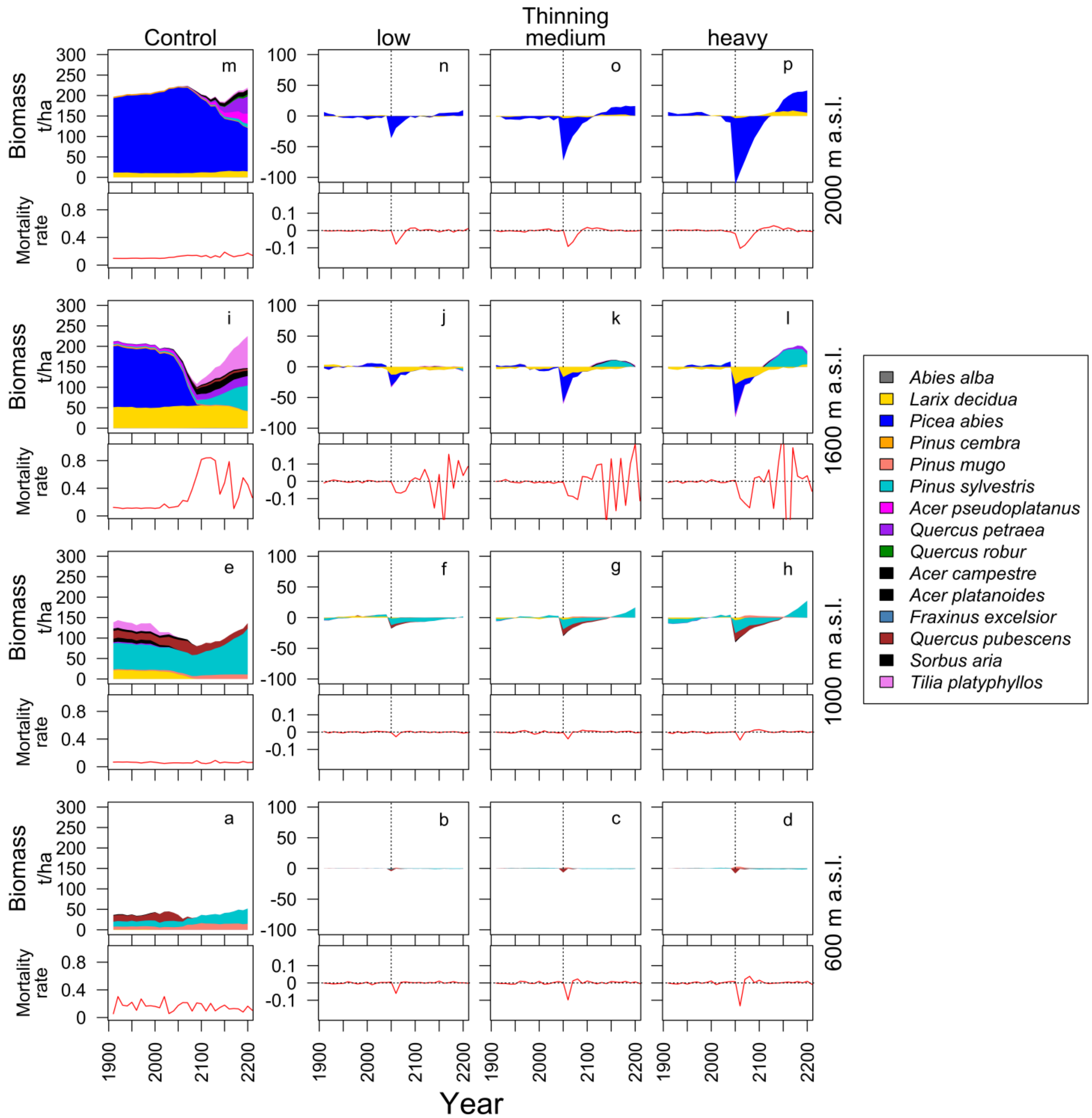

FIG. A14. Projected impact of low, medium and heavy thinning treatments performed in 2050, on tree species biomass and tree mortality rate under the A2 climate scenario, from simulations that assume a constant maximum plot transpiration rate.