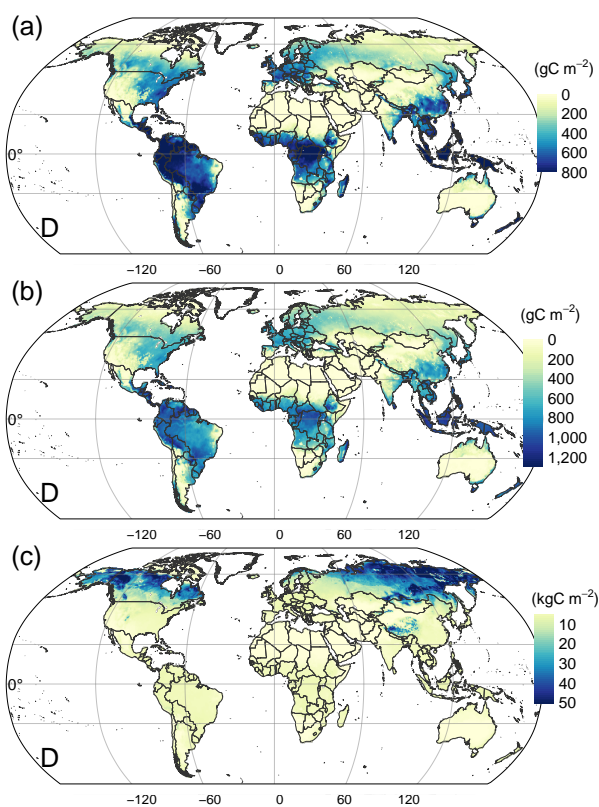Geoscientific
Model Development

Supplement of

Modeling vegetation and carbon dynamics of managed grasslands at the global scale with LPJmL 3.6

Susanne Rolinski et al.

*Correspondence to:* Susanne Rolinski (susanne.rolinski@pik-potsdam.de)

S1 Maps of default option D

Figure S1. Simulation results for option D averaged over 1998 to 2002, a) grass harvest (gC m^{-2}), b) NPP (gC m^{-2}) and c) soil carbon (kgC m^{-2}).

S2 Maps of mowing option M
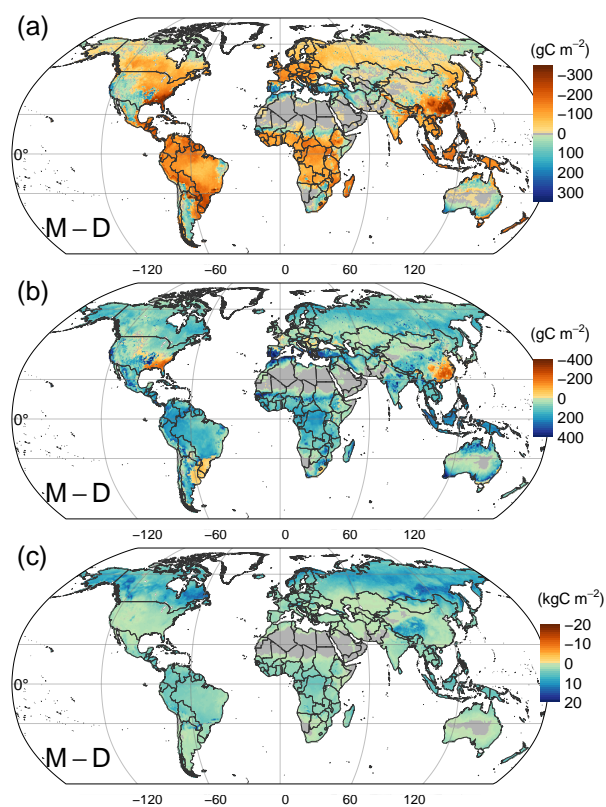
Figure S2. Simulation results for option M averaged over 1998 to 2002, a) grass harvest difference to option D (gC m^{-2} a^{-1}), b) NPP difference to option D (gC m^{-2} a^{-1}) and c) soil carbon difference to option D (kgC m^{-2}).

S3 Maps of daily grazing option G_D

S4 Maps of rotational grazing option G_R
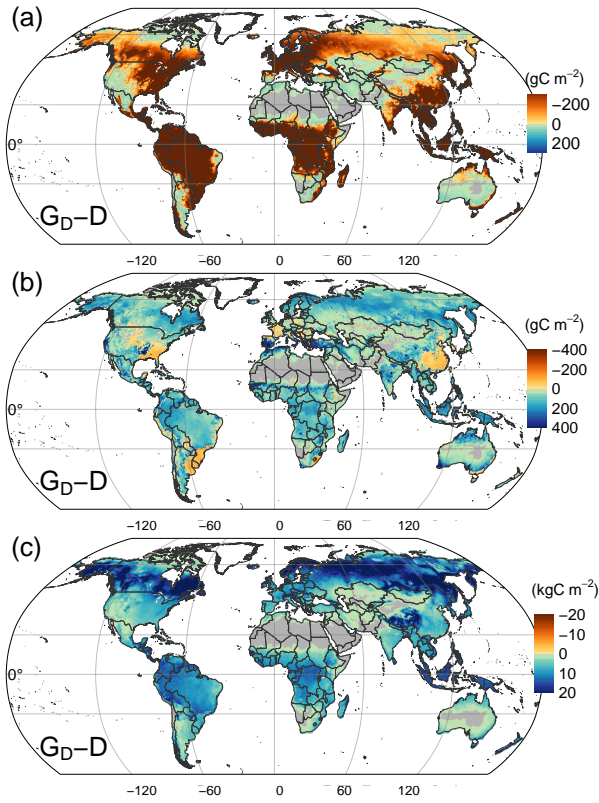
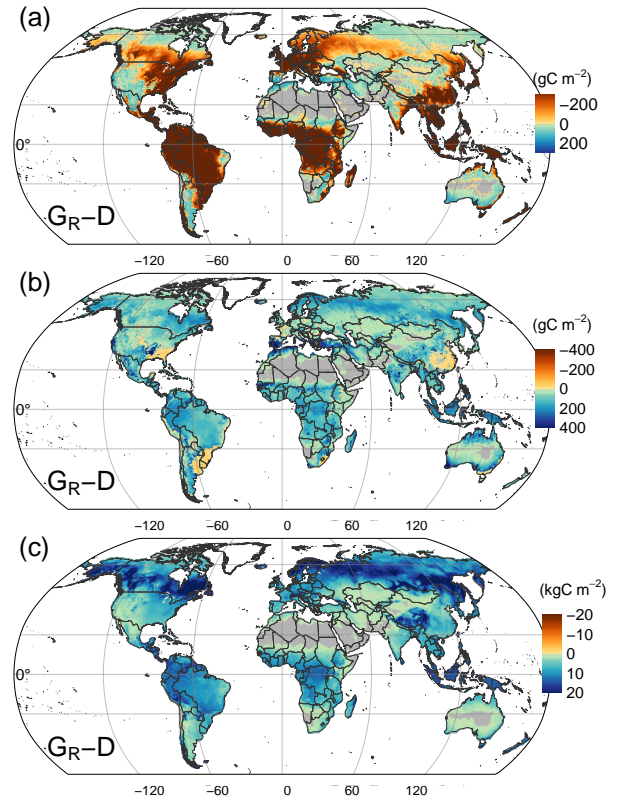**Figure S3.** Simulation results for option G_D averaged over 1998 to 2002, a) grass harvest difference to option D (gC m^{-2} a^{-1}), b) NPP difference to option D (gC m^{-2} a^{-1}) and c) soil carbon difference to option D (kgC m^{-2}).

Figure S4. Simulation results for option G_R averaged over 1998 to 2002, a) grass harvest difference to option D (gC m^{-2} a^{-1}), b) NPP difference to option D (gC m^{-2} a^{-1}) and c) soil carbon difference to option D (kgC m^{-2}).