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The logo for the European Geosciences Union (EGU), featuring the letters 'EGU' in a bold, sans-serif font, with a stylized gear or circular element behind the 'E'.

Supplement of

Modelling Mediterranean agro-ecosystems by including agricultural trees in the LPJmL model

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Table S1: Determination of harvested areas for land use dataset compilation. The stars indicate crops that are implemented in this study.

LPJmL crops	Data source for harvested area	Crops in source
Citrus*	Portmann et al. 2011	Citrus
Cotton*	Portmann et al. 2011	Cotton
Date Palm*	Portmann et al. 2011	Date palm
Fodder grass*	Portmann et al. 2011	Fodder grasses
Grapes*	Portmann et al. 2011	Grapes / Vine
Groundnuts	Portmann et al. 2011	Groundnuts / peanuts
Maize	Portmann et al. 2011	Maize
Manage Grasslands	Ramankutty et al. 2008	Grasslands
Non Citrus Orchards*	Monfreda et al. 2008	Apples, Apricots, Avocados, Bananas, Carobs, Cashew apple, Cherries, Figs, Fruit fresh (other), Fruit tropical fresh (other), kiwi, Mangoes, Papayas, Peaches and nectarines, Pears, Persimmons, Plums, Quinces, Sour, cherries, Stone fruit (other)
Nuts Trees*	Monfreda et al. 2008	Almonds, Brazil Nuts, Cashew nuts, Chestnuts, Hazelnuts, Karite nuts, Kola nuts, Nuts (other), Pistachios, Walnuts
Olives*	Monfreda et al. 2008	Olives
Others	Portmann et al. 2011	Oil palm, Cocoa, Coffee, Others perennial, Others annual
Potatoes*	Portmann et al. 2011	Potatoes
Pulses	Portmann et al. 2011	pulses
Rapeseed	Portmann et al. 2011	Rapeseed / canola
Rice	Portmann et al. 2011	Rice
Soybeans	Portmann et al. 2011	Soybeans
Sugar Cane	Portmann et al. 2011	Sugar cane
Sunflower	Portmann et al. 2011	Sunflower
Temperate Cereals	Portmann et al. 2011	Wheat, barley, rye
Temperate Roots	Portmann et al. 2011	Sugar beet
Tropical Cereals	Portmann et al. 2011	Millet, sorghum
Tropical Roots	Portmann et al. 2011	Cassava
Vegetables*	Monfreda et al. 2008	Artichokes, Asparagus, Cabbages, Carrots, Cauliflower, Chillies and peppers (green), Cucumbers and gherkins, Eggplants, Garlic, Green Beans or Beans (green), Broadbeans (green), Green Corn, Onions and shallots (green), Peas (green), Lettuce, Cantaloupes and other melons, Mushrooms, Okra, Onions (dry), Pumpkins squash (gourds), Spinach, String Beans, Tomatoes, Vegetables fresh (other), Watermelons

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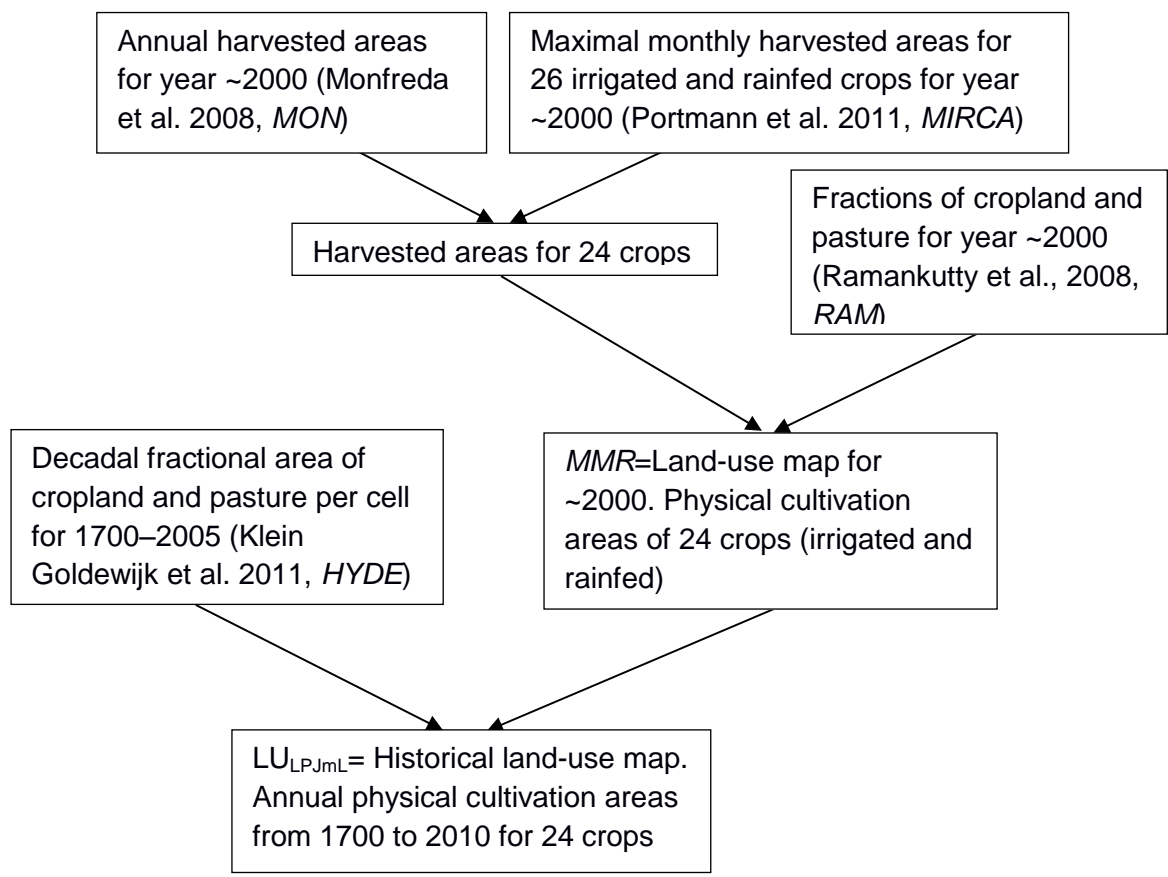
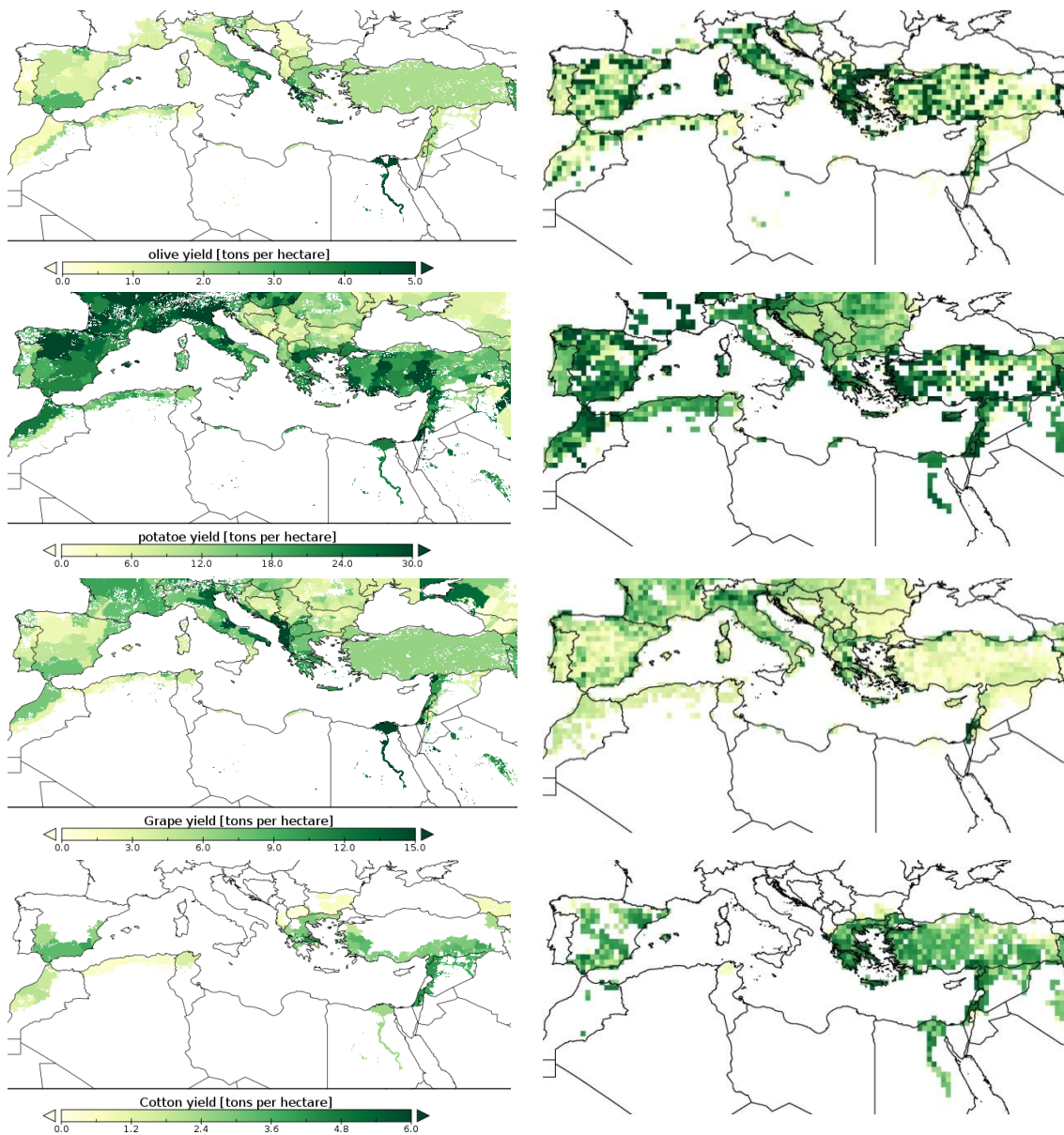


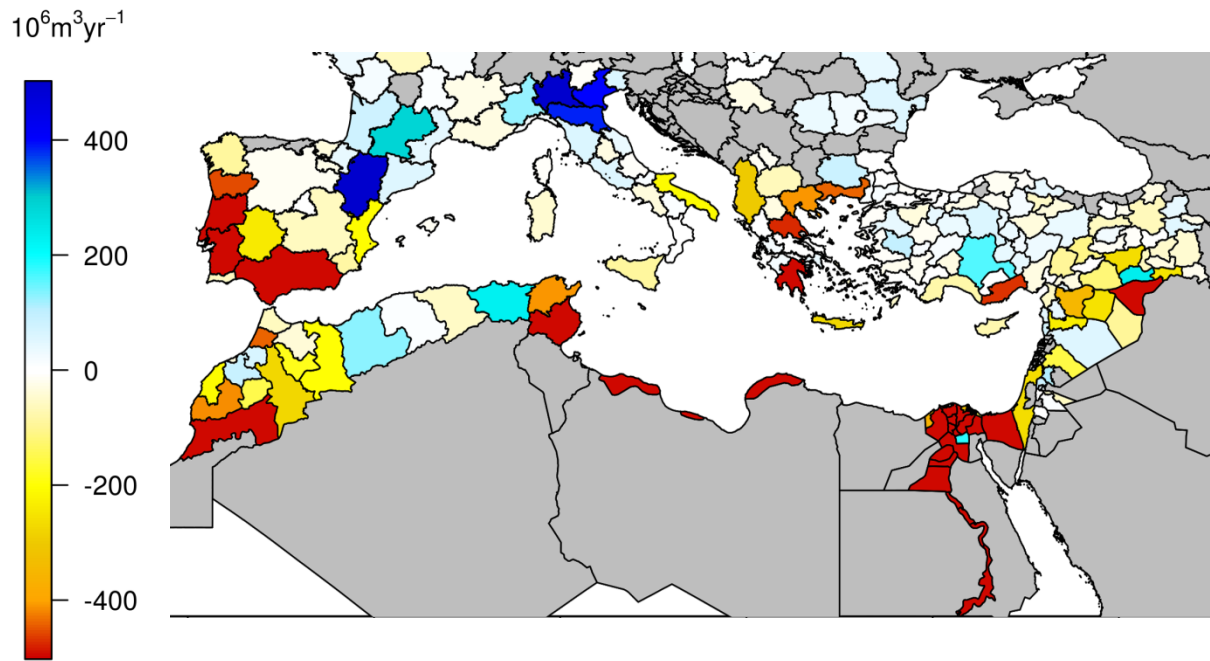
Fig. S1: Compilation of the land use dataset used as input for LPJmL.



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2 **Fig. S2:** Comparison of LPJmL-simulated yields (right panel, average 2000-2009) with yields from
 3 Monfreda et al., 2008 (left panel, values around the year 2000) for olives, potatoes, grapes and
 4 cotton.

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2 **Fig. S3:** Comparison of irrigation consumptive water use from Siebert et al. (2010) and net irrigation
 3 water requirements computed in this study. Negative (positive) values indicate higher (lower) values
 4 in their study.

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