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Improving high-resolution spatial information on agricultural land use management in Europe for economic land use modelling and the assessment of policy impacts

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There is currently a lack of high-resolution pan-European information on land use management, especially in terms of how intensively and extensively cropland and grassland are managed. This is partly due to the lack of ground-based information, which is needed to downscale these types of management practices (some of which are captured in different types of agricultural censuses and surveys) as well as the inability of remote sensing to capture different kinds of land use. This type of information is needed for economic land use modelling and for assessing policy impacts, such as the latest reforms from the Common Agricultural Policy (CAP) and other European Union (EU) Green Deal targets. These types of analyses are undertaken using economic land use models such as GLOBIOM and CAPRI, which is one of the main aims of the Horizon Europe funded LAMASUS project (https://www.lamasus.eu/).

This presentation will provide an overview of the ongoing developments in creating high-resolution spatially explicit layers on agricultural and grassland management for Europe to support the LAMASUS project. The proposed cropland and grassland management classes will be outlined along with the methodology for how they have been implemented using existing data layers from remote sensing, statistical data from Eurostat, the Joint Research Centre of the EU, agricultural ministries, and other sources. One of the key challenges is ensuring that the high-resolution data matches official statistics at the national (and NUTS2 level where available) so that they can be used by the economic land use models in LAMASUS. A method will be presented for how this is achieved using priors in the form of integrated layers of cropland and grassland probability created from existing high-resolution remotely sensed input layers.