



Basemap creation methodology

The “Viva Grass basemap” provides the spatial foundation for the ecosystem services assessment and contains a common classification of grassland types for the Baltic States. The “Viva Grass basemap” captures the interaction of natural capital attributes and human inputs that drive the supply of ecosystem services. Based on these notions, the grassland classes that constitute the “Viva Grass basemap” are defined according to three spatial layers:

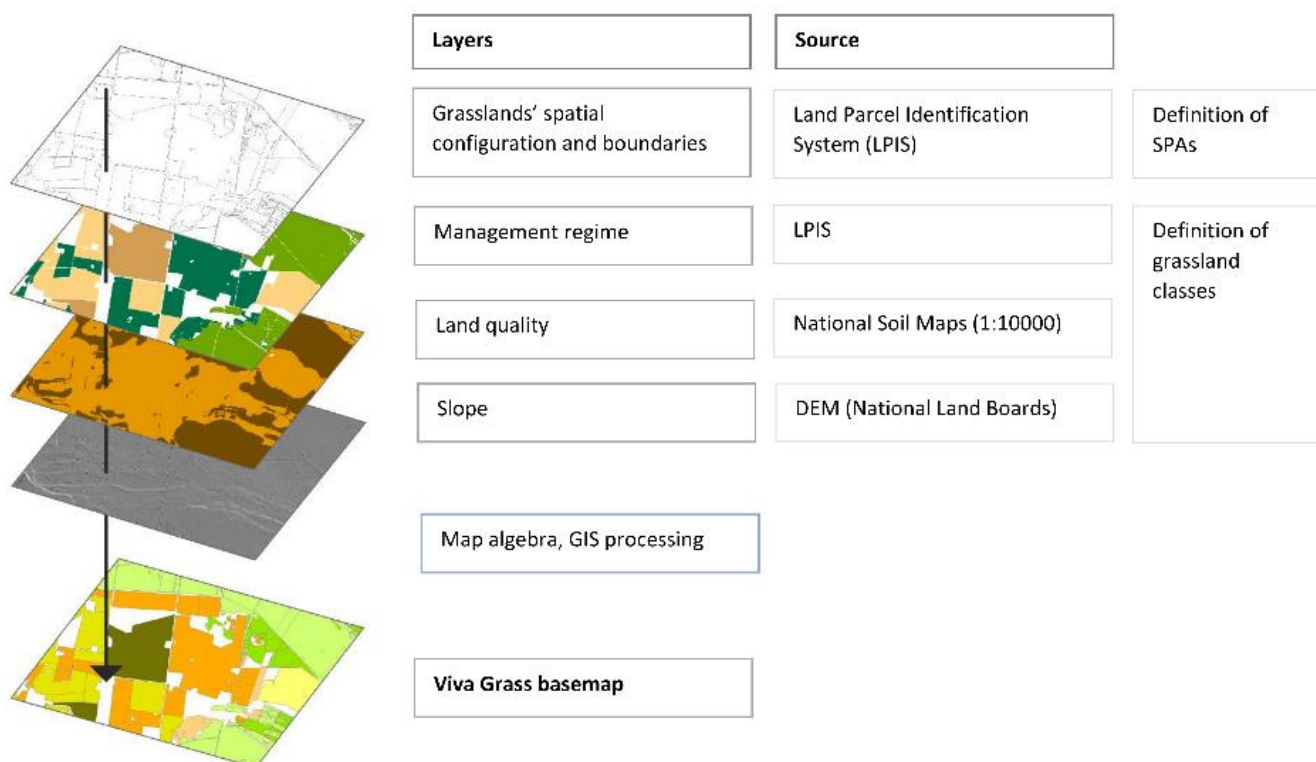
Land Parcel Identification System (LPIS): LPIS is the GIS database of the national Integrated Administration and Control Systems (IACS). IACS databases are the most important system for the management and control of payments to farmers in the EU and contain a system for the identification of all agricultural parcels and their management regime. The LPIS provides, among other information, the grasslands’ spatial configuration and boundaries and the management regime. Within Viva Grass, three types of grassland management regimes and one type of cropland were considered in the analysis: *cultivated*, *permanent*, *semi-natural grasslands* and *arable/cropland*.

National Soil Maps (1:10000): National Soil maps contain information on land quality. The concept of land quality is an integrated evaluation of fertility of soils used in the Baltic States' land evaluation systems and is composed of several factors, e.g. soil texture, soil type, topography, stoniness and level of cultivation. Soils were divided into four classes according to the land quality: (1) low quality soils, (2) medium land quality soils, (3) high land quality soils and (4) hydromorphic soils.

National Digital Elevation Models (DEM): Although slope has little or no direct influence on the yield of crops, but steeper slopes are associated with shallower soils with less water retention capacity. For the creation of the basemap, slopes were calculated from DEMs and divided into three categories: (0° – 4°) plain surface, (5° – 10°) gentle steepness and (>10°)

steep slope. Each category corresponds to an erosion potential, where: the first category represented no soil erosion, second category –minimal soil erosion and third category - noteworthy soil erosion potential.

The spatial layers were combined in a GIS environment through map algebra and GIS processing operations, resulting in 30 grassland classes and 10 arable land classes.



For more information, please refer to:

Villoslada M, Vinogradovs I, Ruskule A, Veidemane K, Nikodemus O, Kasparinskis R, Sepp K, Gulbinas J (2018) A multitiered approach for grassland ecosystem services mapping and assessment: The Viva Grasstool. One Ecosystem 3: e25380.
<https://www.researchgate.net/deref/https%3A%2F%2Fdoi.org%2F10.3897%2Foneeco.3.e25380>