VISUALLY INSPECTED DATA POINTS

Document elaborated by the Pasture Research Nucleus of the Image Processing and Geoprocessing Laboratory (Lapig) of the Federal University of Goiás (UFG), coordinated by professor Laerte Guimarães Ferreira. This and other methods relative to data production and pastures information are available in the Atlas of Pastures platform.

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The data comprise a set of samples randomly selected for training the classification algorithm and the accuracy analysis of the pasture maps. A class of vegetation cover and land use per year was assigned to each sample (from 1985 onwards). The classification was generated through visual interpretation of images from the Landsat series. Each pixel was initially interpreted by 3 independent analysts. Pixels for which there was no agreement between the assigned classes were re-inspected by another analyst to consolidate the class.

Each pixel was analyzed, for each year, as to whether or not it belonged to each of the established classes according to the following legend:

Class	Description	Image
Perennial Agriculture	Planting lasting more than two years, such as: coffee, citrus, etc.	
Annual Agriculture	Planting lasting less than one year, such as: soybean, rice, corn, etc.	
Water	Aquatic surface, such as: rivers, lakes, dams, ocean, etc.	

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Urban area	Area with buildings, from villages to cities.	
Sandbank	Sandy surfaces such as river sand deposits, beaches and dunes.	
Sugar cane	Sugar cane planting	
Deforestation	Moment after total or partial removal of trees	
Regeneration	Areas where there is a regeneration of native vegetation and abandonment of use	
Roads	Roads with or without asphalt.	

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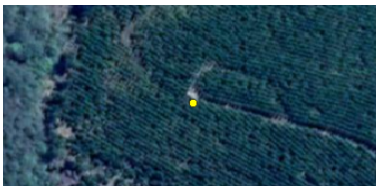
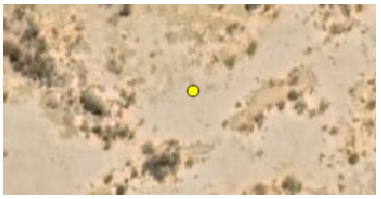
Lavrado e Campinarana	Natural vegetation of the Amazon, such as savanna and grasslands	
Occupation mosaic	Industrial structures or small built-up areas	
Not observed	No image or images with atmospheric interference	
Natural unvegetated	rocky outcrops	
Cultivated pasture	Grass cultivated for grazing	
Natural pasture	Use of natural grasses for grazing	

Forestry	Planting of timber trees such as eucalyptus and pine	
Exposed soil	Absence of any surface coverage	
Native vegetation	Natural vegetation of the region, such as: forests, savannas and grasslands.	

. The Temporal Visual Inspection – TVI tool was used to interpret the pixels, as shown in Figure 1 (see Nogueira et al., 2017), a tool developed at Lapig with the purpose of optimizing the inspection of points in satellite images. For each pixel, the location information, two annual compositions (dry season and rainy season) and Landsat image in false color composition are displayed, in addition to the aid of an NDVI graphic of MODIS images and a kml file for additional information via Google Earth. The team of interpreters received specific training for each Brazilian biome, using the criteria described in the interpretation key for each Brazilian biome (see: https://chave.lapig.iesa.ufg.br/pt/ or https://chave.lapig.iesa.ufg.br/en/).

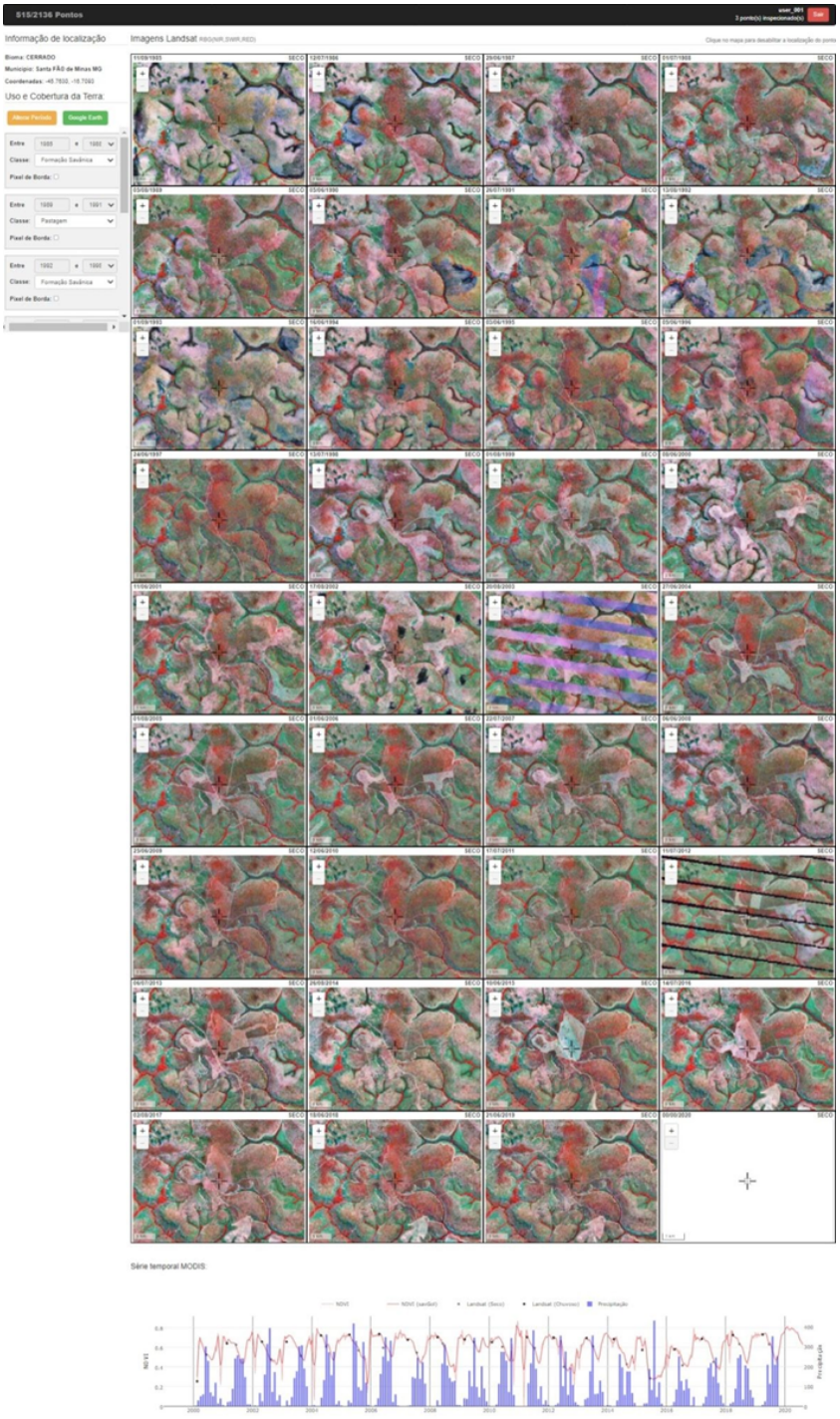


Figure 1. Example of use of TVI - Temporal Visual Inspection.