

Monitor land ecosystems and biodiversity

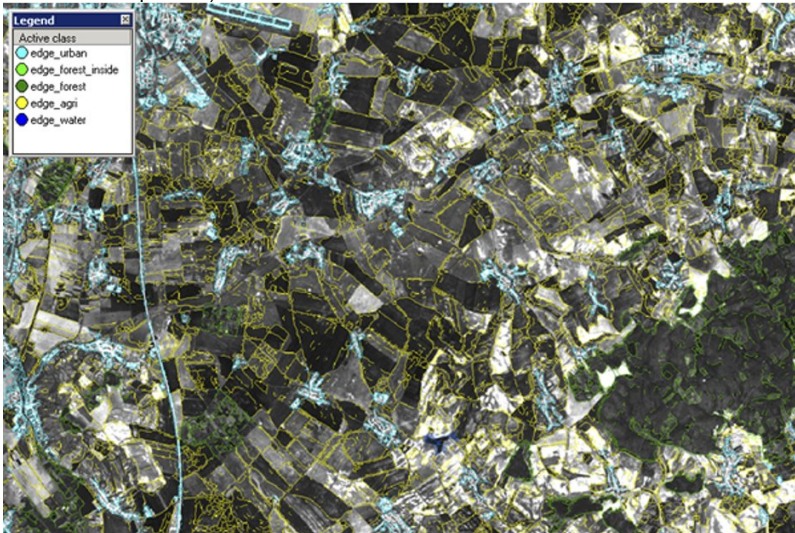
Applications

Biodiversity monitoring

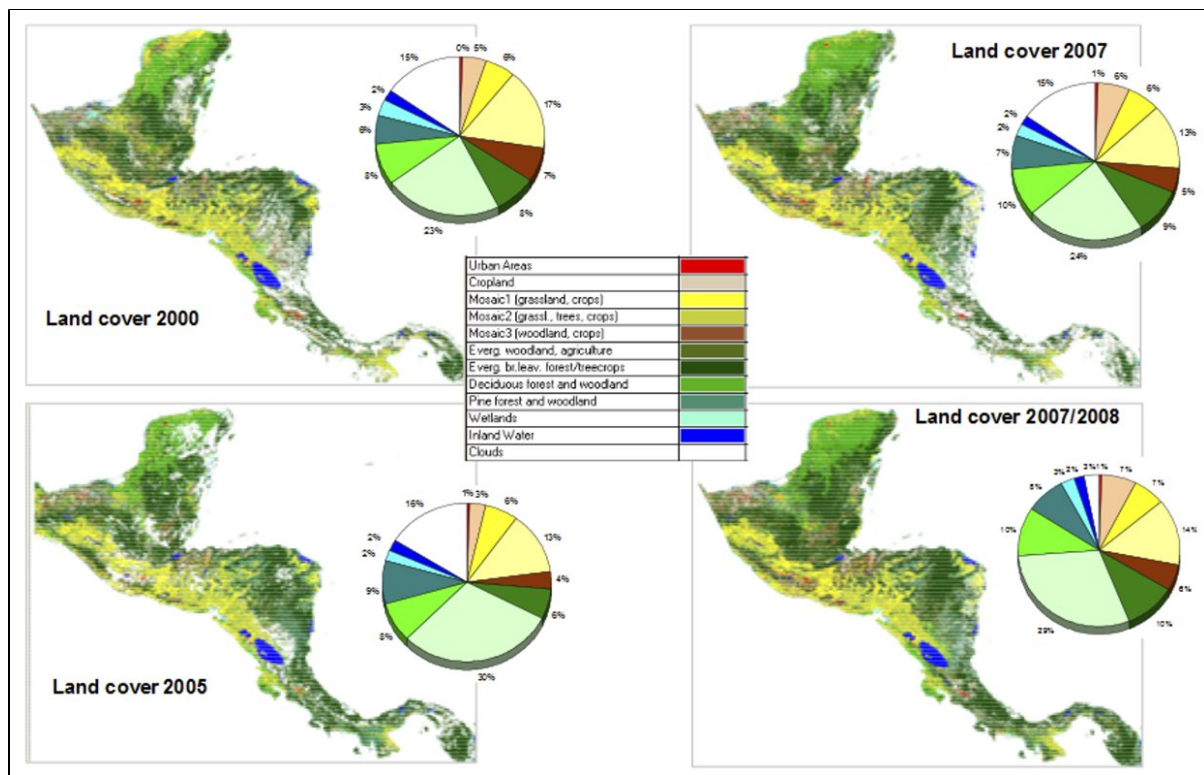
Biodiversity, in terms of species and habitats richness, is crucial to ecosystem productivity today and also in the future when it will more and more act as an insurance policy against changing climatic and other conditions. Maintaining biodiversity and ecosystem services can therefore be seen as a hedge to offset exposure to negative future developments and so underpin economic opportunities and societal cohesion.

Several EO derived products (at different spatial scales, from regional to local) can jointly provide indication of an area biodiversity trends and act as effective tools for proper land use planning:

- land cover and its changes
- landscape fragmentation by identification and classification of small linear features (either connectors, interfaces and habitats or barriers). This is currently being investigated together with the European Environment Agency (EEA) and they now plan to integrate this linear feature and habitat heterogeneity delineation capability into their ecosystem mapping and assessment (EU biodiversity strategy to 2020) as a proxy indicator of ecosystem quality.
- indicators of forest fragmentation and other characteristics (e.g. distance between forest patches).



Example of small linear features (edges) highlighting fragmentation of land cover classes. Credits: Geoville



Regional land cover maps in the Mesoamerican Biological Corridor for the years between 2000 and 2007 /2008 based on MERIS (MODIS). Analysis of land cover changes reveals a strong anthropogenic influence, with growth of urban areas, cropland and pine forest/woodlands. The change assessment also shows a decline of wetlands and increases in natural wood-lands and grasslands. Credits: Geoville

References:

ESA 2013, Earth Observation for Green Growth: An overview of European and Canadian Industrial Capability

Products

Products	Ext. Source	Descriptions	Product Standards	Ref. Project
grassland monitoring		Grassland Monitoring (Euroland)	HR Grassland Layer Technical Product Specifications (Euroland- Geoland)	geoland2

Success Stories

Habitat Monitoring			

References

Topic	Description	Key words	References