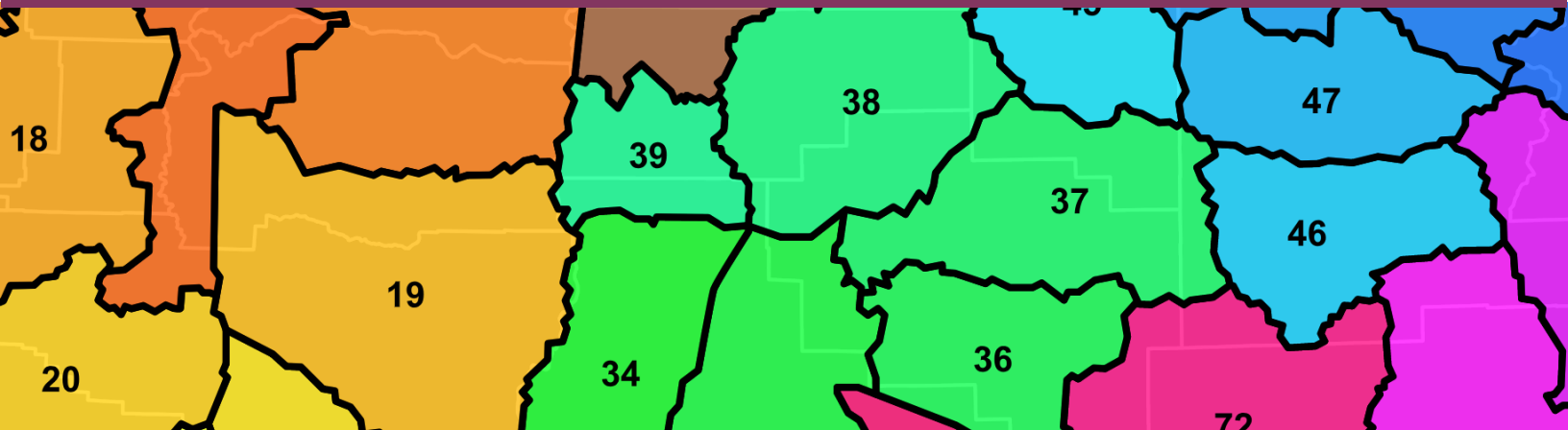


Global Register of Continuous Land Use and Land Cover Units



Global Register of Continuous Land Use and Land Cover (LULC) Units

Assigns every point on the earth's land surface and at any time since 1972 to a uniquely identified unit (a space-time polyhedron) of continuous land use and land cover. Every unit represents a spatio-temporally continuous component of the landscape across which vegetation or man-made activity appears homogeneous. Units may have changed size and boundaries, or may have appeared or disappeared, during the time-period.

Rationale

Observations of biodiversity and of ecologically significant elements of the landscape are frequently sparse. Ability to map biodiversity patterns and the structure of natural systems correspondingly depends on assessing the completeness of data coverage and on interpolation in areas with limited observations. By identifying portions of the landscape which share vegetation characteristics or which exhibit consistent patterns of human use, the opportunity is increased for assessing the relevance of historical data to understanding contemporary patterns, for identifying units with no or inadequate levels of available data, for prioritizing field work in these areas, and generally for optimizing efforts to interpolate and extrapolate in biologically meaningful ways.

Status: **CONCEPT**

Value: **VERY HIGH**

Readiness: **MODERATE**

Estimated costs: *Research and Development - €250,000 Operationalisation - €1,000,000 Ongoing annual - €500,000*

Elements to accommodate







- Continuous satellite imagery from 1972
- May begin with coarse classification and improve over time
- Classify using full-year and multi-year imagery
- Need to accommodate ground-truthing (cf. [LandSense](#))
- Stable URIs for all units to support linked open data
- Web resources for all units, showing history, changes in boundaries and overview of associated observations

Remaining challenges

- Lower quality and granularity for earlier satellite images
- Feasibility of consistent and meaningful assignment of points to discrete categories
- Agreeing desirable and achievable granularity
- Determining continuity in fragmented systems
- Possibility of extending approach to non-terrestrial systems

Global Register of Continuous Land Use and Land Cover Units



GBIO Component	Significance of this investment
 Multiscalar Spatial Modeling	Assist with hierarchical spatial organization of landscape units Boost information signal inside and between across landscape units
 Trends and Predictions	Validate comparability of data across time series Boost information signal through time Incorporate future continuity scenarios within predictive models
 Modelling Biological Systems	Improve recognition and measurement of species co-occurrence within communities
 Visualization and Dissemination	Improve presentation of data and change on a local basis Support conservation and governmental actors in evaluating conservation value and complementarity
 Prioritizing New Data Capture	Identify landscape units with inadequate or no existing observations
 Integrated Occurrence Data	Support a consistent approach to biologically meaningful faceting of occurrence records

Supporting stakeholders

>>> Institutional logos here for stakeholders with particular interests in promoting delivery of this component <<<