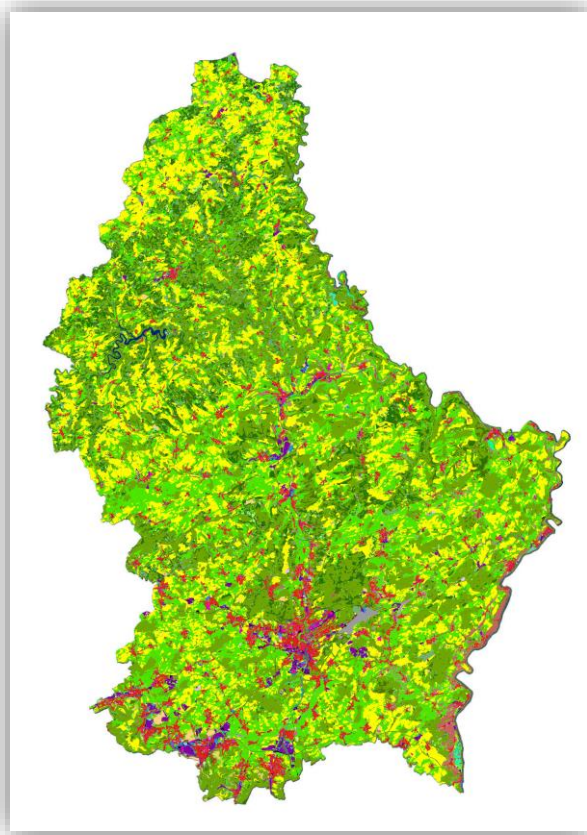


An Enhanced and Harmonized Land Use Database of Luxembourg (2007–2021)

Metadata Document



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Title:

An Enhanced and Harmonized Land Use Database of Luxembourg (2007–2021): Metadata document

Authors:

Andrea Peters, Manuel Löhnertz, Inge Kleeschulte, Stefan Kleeschulte

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Contact information:

Stefan Kleeschulte

space4environment sàrl

48, rue Gabriel Lippmann

L-6947 Niederanven

Tel: +352 26 71 41 35

Fax: +352 26 71 45 54

kleeschulte@space4environment.com

<http://www.space4environment.com>

1 INTRODUCTION

The Land Use Maps of Luxembourg provide essential insights into the utilization of land and the spatial distribution of activities across the country's landscape. These maps have been developed for the years 2007, 2015, 2018, and 2021, offering a comprehensive view of land use patterns over time.

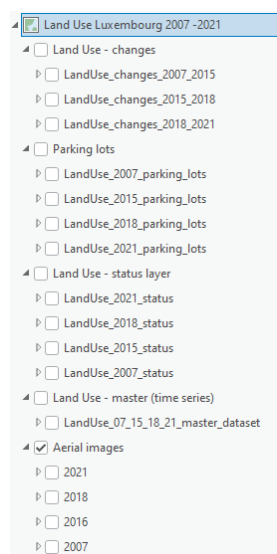
The classification system includes six primary Level 1 categories: Settlement, Agriculture, Forest, Natural Surfaces, Water, and Transport. Each of these is further detailed into Level 2 and Level 3 subcategories for more granular analysis. Additionally, the maps account for secondary land use in areas where dual purposes coexist, such as combined solar energy production and agricultural activities.

2 DATASETS

The land use time series (2007, 2015, 2018 and 2021) is delivered in a gdb format.

- Projection: LUREF/Luxembourg TM (EPSG:2169)
- Format:
 - Geodatabase (gdb)
 - Geopackage (gpkg)
 - ESRI project package (ppkx)
- Geometry: polygons
- Coverage: Luxembourg country

The "master" version (LandUse_07_15_18_21_master_dataset) contains all LU information for the four years as well as the secondary LU information. The data sets are grouped in the ArcGIS Pro Package as below:



2.1 LAND USE MASTER GEODATABASE.

The Land Use Master dataset combines all four land use datasets for both Land Use 1 and Land Use 2 into a single vector dataset. Additional datasets, such as status, parking lots, and change layers, were derived from this master dataset

- **LandUse_07_15_18_21_master_dataset**

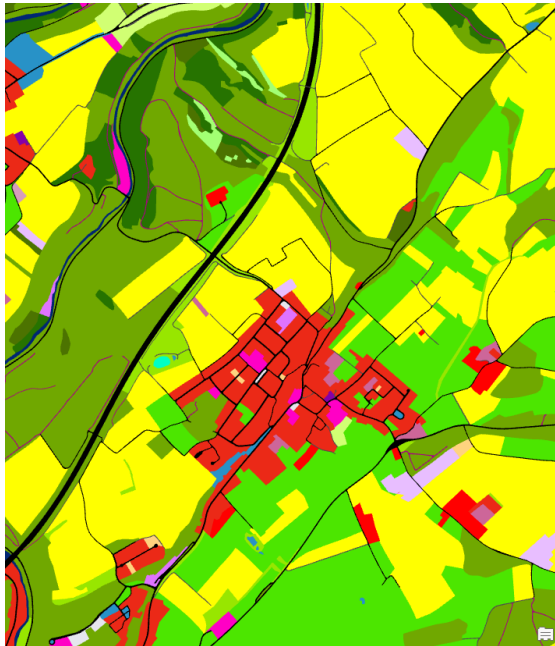


Field Name	Alias	Data Type	Allow Null	Information
OBJECTID	OBJECTID	Object ID	FALSE	feature id
Shape	Shape	Geometry	TRUE	feature geometry
LU1_2007	LU1_2007	Short	TRUE	Land Use 1 -level3 code for 2007
LU1_2015	LU1_2015	Short	TRUE	Land Use 1 -level3 code for 2015
LU1_2018	LU1_2018	Short	TRUE	Land Use 1 -level3 code for 2018
LU1_2021	LU1_2021	Short	TRUE	Land Use 1 -level3 code for 2021
LU2_2007	LU2_2007	Short	TRUE	Land Use 2 -code for 2007
LU2_2015	LU2_2015	Short	TRUE	Land Use 2 -code for 2015
LU2_2018	LU2_2018	Short	TRUE	Land Use 2 -code for 2018
LU2_2021	LU2_2021	Short	TRUE	Land Use 2 -code for 2021
Shape_Length		Double	TRUE	feature length in [m]
Shape_Area		Double	TRUE	feature area in [m ²]

2.2 LAND USE STATUS LAYER

A status land use layer was created for each status year (2007, 2015, 2018 and 2021).

- LandUse_status_2021
- LandUse_status_2018
- LandUse_status_2015
- LandUse_status_2007



Field Name	Alias	Data Type	Allow Null	Information
OBJECTID	OBJECTID	Object ID	FALSE	feature id
Shape	Shape	Geometry	TRUE	feature geometry
LU1_2021	LU1_2021	Short	TRUE	Land Use 1 -level3 code
LU2_2021	LU2_2021	Short	TRUE	Land Use 2 -code for
LU1_level_1_code	LU1_level_1_code	Long	TRUE	LU1 level 1 code
LU1_level_1_name	LU1_level_1_name	Text	TRUE	LU1 level 1 name
LU1_level_2_code	LU1_level_2_code	Long	TRUE	LU1 level 2 code
LU1_level_2_name	LU1_level_2_name	Text	TRUE	LU1 level 2 name
LU1_level_3_code	LU1_level_3_code	Long	TRUE	LU1 level 3 code
LU1_level_3_name	LU1_level_3_name	Text	TRUE	LU1 level 3 name
LU2_code	LU2_code	Long	TRUE	Land Use 2 -code
LU2_name	LU2_name	Text	TRUE	Land Use 2 -name
Shape_Length	Shape_Length	Double	TRUE	feature length in [m]
Shape_Area	Shape_Area	Double	TRUE	feature area in [m ²]

2.3 LAND USE CHANGE LAYER

The land use changes between two years were derived from the master dataset. Feature where different land use 1 level 3 classification information was found were added to the following change layer:

- LandUse_changes_level3_2018_2021
- LandUse_changes_level3_2018_2021
- LandUse_changes_level3_2007_2015



Field Name	Alias	Data Type	Allow Null	Information
OBJECTID	OBJECTID	Object ID	FALSE	feature id
Shape	Shape	Geometry	TRUE	feature geometry
LU1_2018	LU1_2018	Short	TRUE	Land Use 1 -level3 code in 2018
LU1_2021	LU1_2021	Short	TRUE	Land Use 1 -level3 code in 2021
LU2_2018	LU2_2018	Short	TRUE	Land Use 2 -code in 2018
LU2_2021	LU2_2021	Short	TRUE	Land Use 2 -code in 2021
Shape_Length	Shape_Length	Double	TRUE	feature length in [m]
Shape_Area	Shape_Area	Double	TRUE	feature area in [m ²]

2.4 LAND USE PARKING LOTS

The land use LU1 = '650 - Parking lots' & LU2 = '650 - Parking lots' were derived from the status datasets and separate layers created for each year:

- LandUse_parking_lot_2021
- LandUse_parking_lot_2018
- LandUse_parking_lot_2015
- LandUse_parking_lot_2007



Field Name	Alias	Data Type	Allow Null	Information
OBJECTID		Object ID	FALSE	feature id
Shape		Geometry	TRUE	feature geometry
LU1_2021	LU1_2021	Short	TRUE	Land Use 1 -level3 code
LU2_2021	LU2_2021	Short	TRUE	Land Use 2 -code for
LU1_level_1_code	LU1_level_1_code	Long	TRUE	LU1 level 1 code
LU1_level_1_name	LU1_level_1_name	Text	TRUE	LU1 level 1 name
LU1_level_2_code	LU1_level_2_code	Long	TRUE	LU1 level 2 code
LU1_level_2_name	LU1_level_2_name	Text	TRUE	LU1 level 2 name
LU1_level_3_code	LU1_level_3_code	Long	TRUE	LU1 level 3 code
LU1_level_3_name	LU1_level_3_name	Text	TRUE	LU1 level 3 name
LU2_code	LU2_code	Long	TRUE	Land Use 2 -code
LU2_name	LU2_name	Text	TRUE	Land Use 2 -name
Shape_Length		Double	TRUE	feature length in [m]
Shape_Area		Double	TRUE	feature area in [m ²]