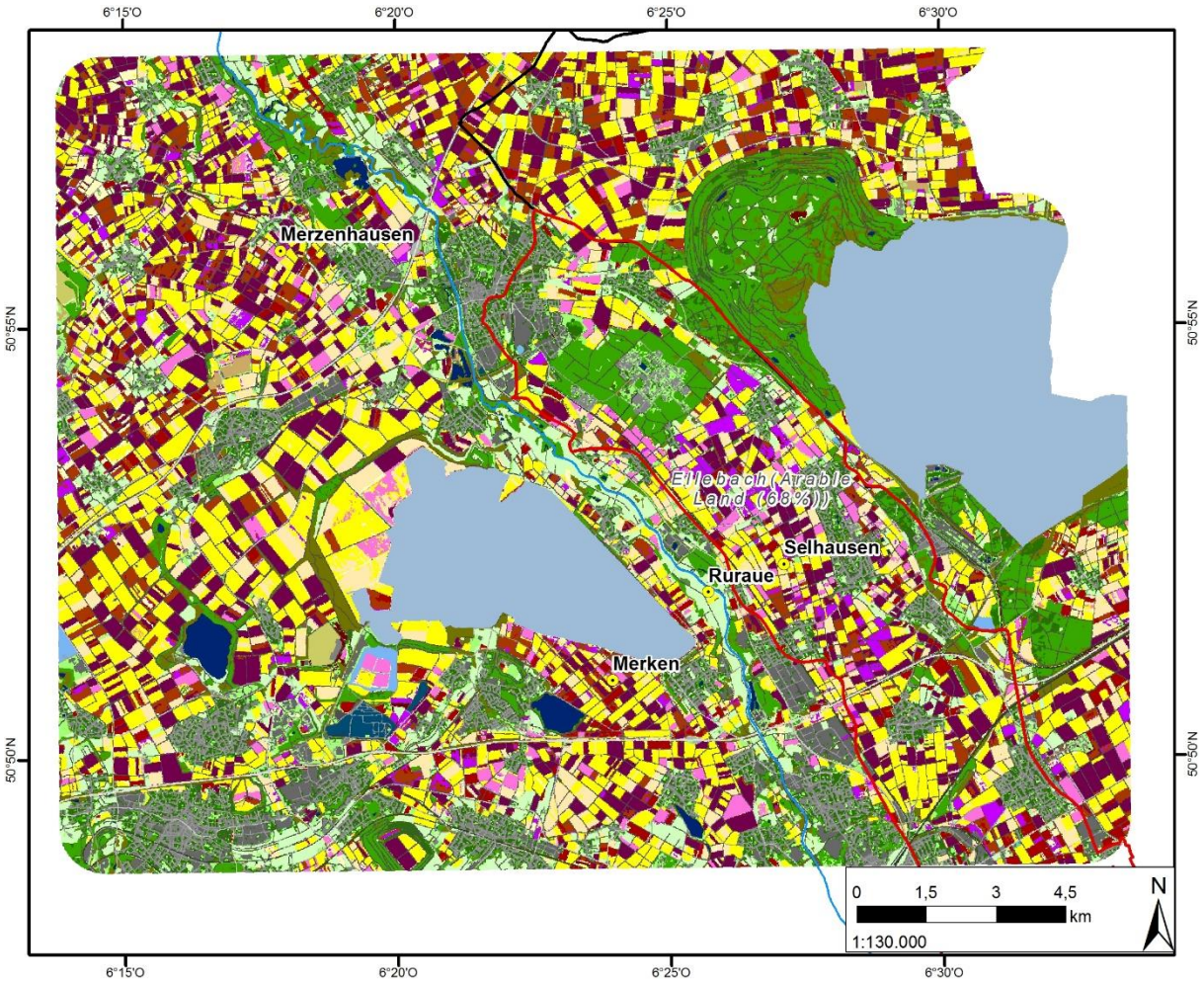
Documentation – Land use classification of 2018 for the CRC/TR32 measurement region Selhausen/Merken/Merzenhausen, preliminary results

	Note: **By downloading this dataset you accept adequate reference in case this data will be discussed or used in any publication or presentation. In this case please use the following citation:** **Lussem, Ulrike (2018): Land use classification of 2018 for the CRC/TR32 measurement region Selhausen/Merken/Merzenhausen, preliminary results. TR32DB. DOI:10.5880/TR32DB.32**
Content	
files:	data lu18_selhausen.tfw lu18_selhausen.tif lu18_selhausen.txt [land use dataset as ascii file] lu18_selhausen.prj documentation this file Read_Me.txt Legend_LU18_selhausen.txt
data size:	1.77 MB (119 MB unzipped)
extent:	Merzenhausen – Selhausen – Merken
provider:	Z1 (U. Lussem)
language:	english
date of publication:	05.10.2018
date of purchase:	/
Description	
description:	This data set contains the preliminary land use classification of 2018 for the measurement region Selhausen/Merken/Merzenhausen of the study area of the CRC/Transregio 32: "Patterns in Soil-Vegetation-Atmosphere Systems: monitoring, modelling and data assimilation", which corresponds to the catchment of the river Rur. The study area is mainly situated in the western part of North Rhine-Westphalia (Germany) and parts of the Netherlands and Belgium, covering an area of approximately 2365 square kilometers.

	The land use classification is derived from supervised, multi temporal remote sensing data analysis using Sentinel-2 data. For the land use analysis datasets of the following acquisition dates were employed: May 05, May 28, July 07, and August 06. For the assessment of the crop classification accuracy please refer to the error matrix on the last page. To enhance the information content of the land use data product, the Multi-Data Approach (MDA) was applied to combine the remote sensing derived land use information with additional data sets like the 'Authorative Topographic-Cartographic Information System' (ATKIS Basis-DLM) and 'Physical Block' information. The methodology of the MDA is described in more detail in Waldhoff et al. 2017, Bareth & Waldhoff (2018) and Waldhoff (2014). The classification is provided in GeoTIFF and in ASCII format. Spatial resolution: 15 m; Projection: WGS84, UTM Zone 32N. References: Waldhoff, G., Lussem, U., Bareth, G. (2017): Multi-Data Approach for remote sensing-based regional crop rotation mapping: A case study for the Rur catchment, Germany. International Journal of Applied Earth Observation and Geoinformation 61, 55-69, 10.1016/j.jag.2017.04.009. Bareth, G. and Waldhoff, G. (2018): 2.01 - GIS for Mapping Vegetation A2 - Huang, Bo. Comprehensive Geographic Information Systems, Elsevier, Oxford, 1-27, https://doi.org/10.1016/B978-0-12-409548-9.09636-6 Waldhoff, G. (2014): Multidaten-Ansatz zur fernerkundungs- und GISbasierten Erzeugung multitemporaler, disaggregierter Landnutzungsdaten. Methodenentwicklung und Fruchtfolgenableitung am Beispiel des Rureinzugsgebiets. Dissertation, University of Cologne, Germany, http://kups.ub.uni-koeln.de/id/eprint/5861. Acknowledgements: We thank Geobasis.NRW for the provision of the ATKIS-Basis-DLM and Copernicus/European Space Agency (ESA) for providing Sentinel-2 data.
abbreviations used in data:	/

Example

Coverage of the land use classification 2018 for the measurement region Selhausen/Merken/Merzenhausen (preliminary results)



Error-Matrix for major crops of the land use classification 2018 for the measurement region Selhausen/Merken/Merzenhausen, preliminary results

		Reference data (Pixel)								
	Klasse	WR	KT	M	ZR	WW	WG	Total	CE (%)	UA (%)
Classification (Pixel)	WR	2366	0	0	0	0	0	2366	0.00	100.0
	KT	0	1173	23	63	0	0	1259	6.83	93.17
	M	0	12	1495	0	0	0	1507	0.80	99.20
	ZR	0	253	0	6747	0	0	7000	3.61	96.39
	WW	0	0	0	0	6000	203	6203	3.27	96.73
	WG	0	0	0	0	437	2388	2825	15.47	84.53
	Total	2366	1438	1518	6810	6437	2591	21160		
	OE (%)	0.00	18.43	1.52	0.93	6.79	7.83		OA(%):	95.32
	PA (%)	100.0	81.57	98.48	99.07	93.21	92.17		Kappa:	0.94

WR = Winter Rapeseed; KT = Potatoes; M = Maize; ZR = Sugar Beet; WW = Winter Wheat; WG = Winter Barley;
PA = Producer´s Accuracy; UA = User´s Accuracy; OA = Overall Accuracy