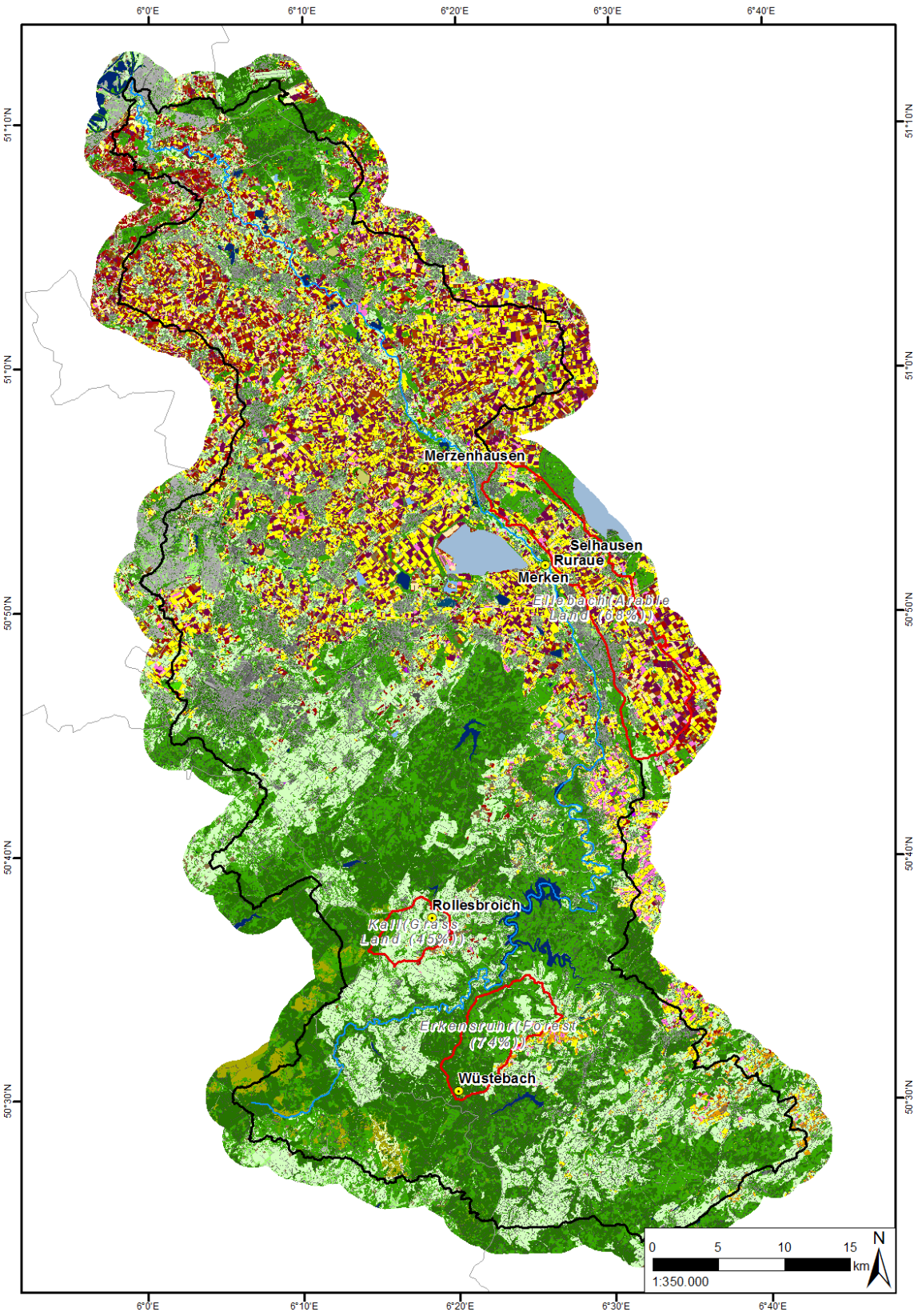
Documentation – Enhanced land use classification of the Rur Catchment 2014

	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; Waldhoff, Guido; (2014): Enhanced land use classification of 2014 for the Rur catchment. TR32DB. DOI:10.5880/TR32DB.12.**
Content	
files:	data lu14_.tif lu14_.tfw lu14_ascii.txt [land use dataset as ascii file] lu14_ascii.prj documentation this file Read_Me.txt Legend_LU14.txt
data size:	6 MB (115 MB unzipped)
extend:	Rur Catchment
provider:	Z1 (G. Waldhoff)
language:	english
date of publication:	11/2014
date of purchase:	/
Description	
description:	This data set contains the land use classification of 2014 for 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 Landsat 8 and ASTER. For the land use analysis datasets of the following acquisition dates were employed: March

	27 (Landsat 8), May 05 (Landsat 8), May 20 (ASTER), June 06 (Landsat 8), July 24 (Landsat 8). Full coverage of the study area was not available for all acquisition dates and thus the crop classification was partly affected in its depth of information. For the assessment of the crop classification accuracy 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 Basic-DLM, AAA schema) and 'Physical Block' information. Furthermore, OpenStreetMap (OSM) data were integrated to update the information on the road network, settlement areas in the Netherlands where CorineLandCover data were outdated, and the course of the river Rur in the Netherlands. Thus, a more disaggregated landuse was obtained, especially for the regions in Belgium and the Netherlands. The methodology of the MDA is described in more detail in Waldhoff & Bareth (2008) and in Waldhoff et al. (2012). The classification is provided in GeoTIFF and in ASCII format. Spatial resolution: 15 m; Projection: WGS84, UTM Zone 32N. References: Waldhoff, G. & Bareth, G. (2008): GIS- and RS-based land use and land cover analysis: case study Rur-Watershed, Germany. - Proc. SPIE 7146, Geoinformatics 2008 and Joint Conference on GIS and Built Environment: Advanced Spatial Data Models and Analyses, 714626 (November 10, 2008); doi:10.1117/12.813171. Waldhoff, G., Curdt, C., Hoffmeister, D. & Bareth, G. (2012): Analysis of multitemporal and multisensor remote sensing data for crop rotation mapping. - ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., I-7, 177-182, doi:10.5194/isprsannals-I-7-177-2012. Acknowledgements: We thank Geobasis.NRW for the provision of the ATKIS-Basic-DLM, the NASA Land Processes Distributed Active Archive Center (LP DAAC, USGS) for the provision of the ASTER L1A data products and the US Geological Service at the Earth Resources Observation and Science (EROS) Center for the provision of the Landsat 8 data products. OSM data were obtained from Geofabrik GmbH.
abbreviations used in data:	/

Example



Coverage of the land use classification 2014

Error-Matrix of the land use classification 2014

		Reference (Pixel)											
	Klasse	WR	KT	M	ZR	WW	WG	SG	NW	LW	Total	CE (%)	UA (%)
Classification (Pixel)	WR	8563	76	0	89	20	90	128	0	0	8966	4.49	95.51
	KT	0	7809	80	370	123	4	0	0	0	8386	6.88	93.12
	M	0	0	6344	677	0	0	0	0	0	7238	12.35	87.65
	ZR	82	83	655	24229	10	17	0	0	0	25076	3.38	96.62
	WW	24	0	0	12	32709	2937	1513	0	0	37195	12.06	87.94
	WG	19	1	0	3	989	8015	45	0	0	9072	11.65	88.35
	SG	0	0	0	0	132	0	2506	0	0	2638	5.00	95.00
	NW	0	0	0	0	0	0	0	1277	0	1277	0.00	100.00
	LW	0	0	0	0	1	0	13	0	1850	1864	0.75	99.25
	Total	8688	8186	7079	25380	33984	11063	4205	1277	1850	101712		
	OE (%)	1.44	4.61	10.38	4.54	3.75	27.55	40.40	0.00	0.00		OA(%):	91,7316
	PA (%)	98.56	95.39	89.62	95.46	96.25	72.45	59.60	100.00	100.00		Kappa:	0,8948

WR = Rapeseed; KT = Potatoes; M = Maize; ZR = Sugar Beet; WW = Winter Wheat; WG = Winter Barley; SG = Summer Barley; NW = Coniferous Trees; LW = Deciduous Trees

OE = Omission Error; CE = Commission Error; PA = Producer´s Accuracy; UA = User´s Accuracy; OA = Overall Accuracy

Author

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