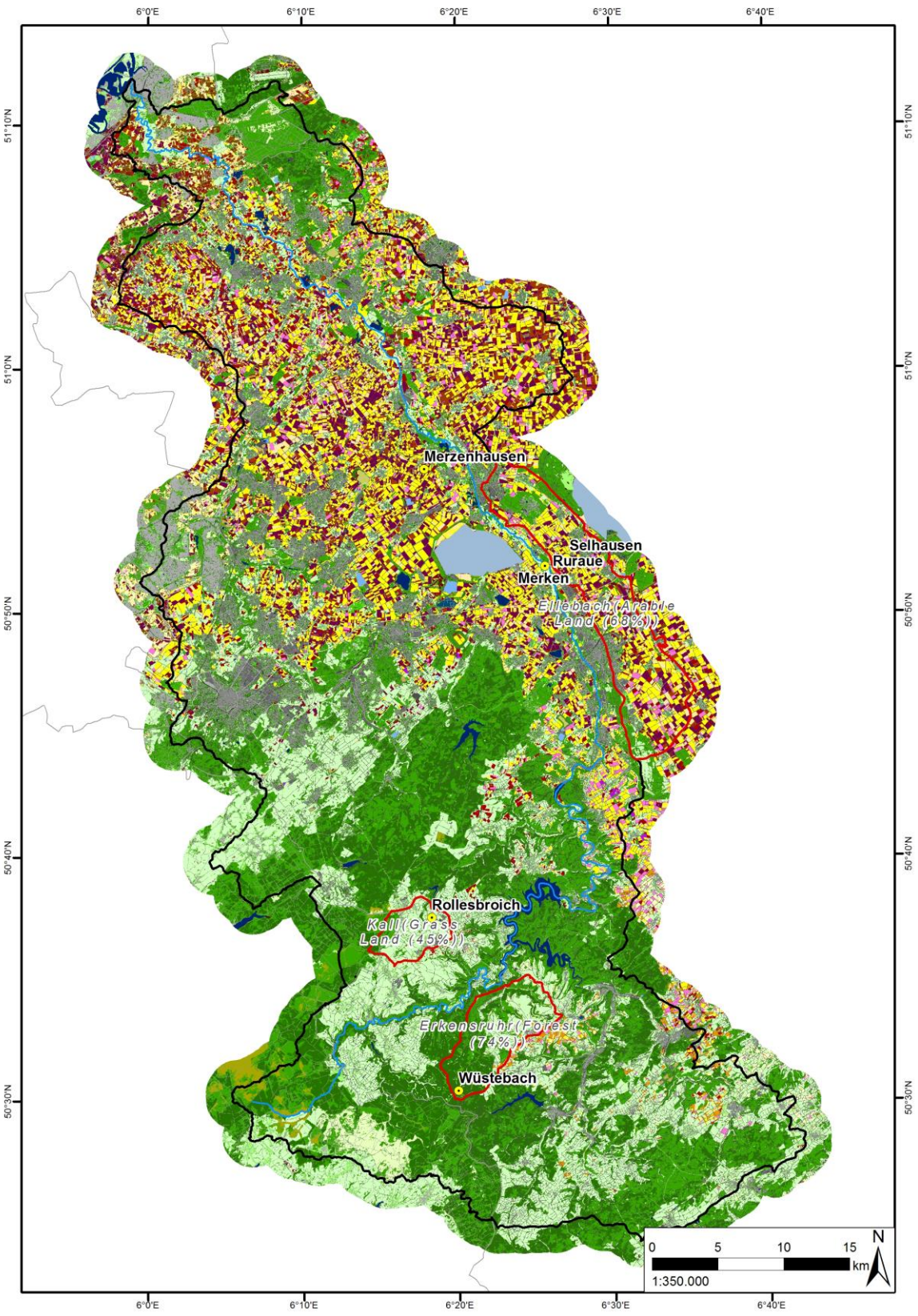
Documentation – Enhanced land use classification of the Rur Catchment 2013n

	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 2013 for the Rur catchment. TR32DB. DOI:10.5880/TR32DB.11.**
Content	
files:	data lu13n_.tif lu13n_.tfw lu13n_ascii.txt [land use dataset as ascii file] lu13n_ascii.prj documentation this file Read_Me.txt Legend_LU13n.txt
data size:	6 MB (115 MB unzipped)
extend:	Rur Catchment
provider:	Z1 (G. Waldhoff)
language:	english
date of publication:	05/2014
date of purchase:	/
Description	
description:	This data set contains the land use classification of 2013 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: April 25 (Landsat 8), May 19 (ASTER), June 21 (ASTER) July 21 (Landsat 8), September 24 (ASTER). 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 (refer to the error matrix on 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. 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.
abbreviations used in data:	/

Example



Coverage of the land use classification 2013n

Error-Matrix of the land use classification 2013

		Reference(Pixel)											
	Klasse	WR	KT	M	ZR	WW	WG	SG	NW	LW	Total	CE (%)	UA (%)
Classification (Pixel)	WR	5807	5	0	0	0	9	12	0	0	5833	0.45	99.55
	KT	0	692	3	300	0	0	0	0	0	995	30.45	69.55
	M	3	69	1752	409	0	1	0	0	0	2234	21.58	78.42
	ZR	1	202	108	7720	2	1	0	0	0	8034	3.91	96.09
	WW	28	4	10	4	8001	3076	360	0	0	11483	30.32	69.68
	WG	0	0	0	0	557	2583	46	0	0	3186	18.93	81.07
	SG	27	0	7	0	0	6	1605	0	0	1645	2.43	97.57
	NW	0	0	0	0	0	0	0	875	0	875	0.00	100.00
	LW	0	0	0	0	0	0	0	0	947	974	0.00	100.00
	Total	5866	972	1880	8433	8560	5676	2023	875	974	35873		
	OE (%)	1.01	28.81	6.81	8.45	6.53	54.49	20.66	0.00	0.00		OA(%):	85,0988
	PA (%)	98.99	71.19	93.19	91.55	93.47	45.51	79.34	100.00	100.00		Kappa:	0,8174

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

G. Waldhoff (Z1), U. Lussem