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Kompleksowa analiza wylesiania w krajach tropikalnych - bezpośrednie czynniki wylesiania, emisje dwutlenku węgla i równowaga wartości usług ekosystemów

A comprehensive study on deforestation in the tropics - direct deforestation drivers, carbon emissions and ecosystem service value balance

Master's Thesis
on the course of - Forestry

Thesis written under the supervision of
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Potsdam Institute of Climate Impact Research
Research Domain II - Climate Climate Impacts & Vulnerabilities

Potsdam, 2018

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Zusammenfassung

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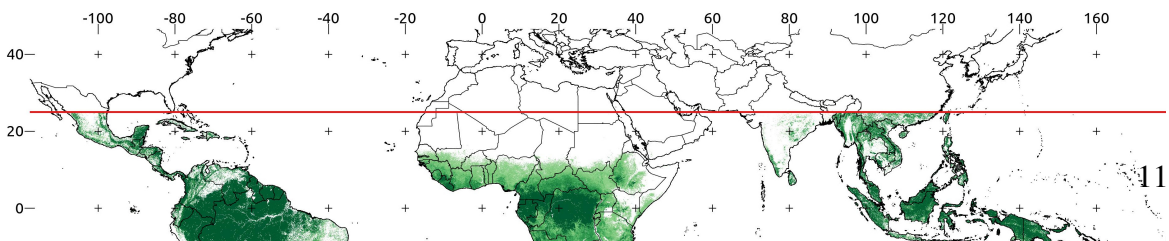

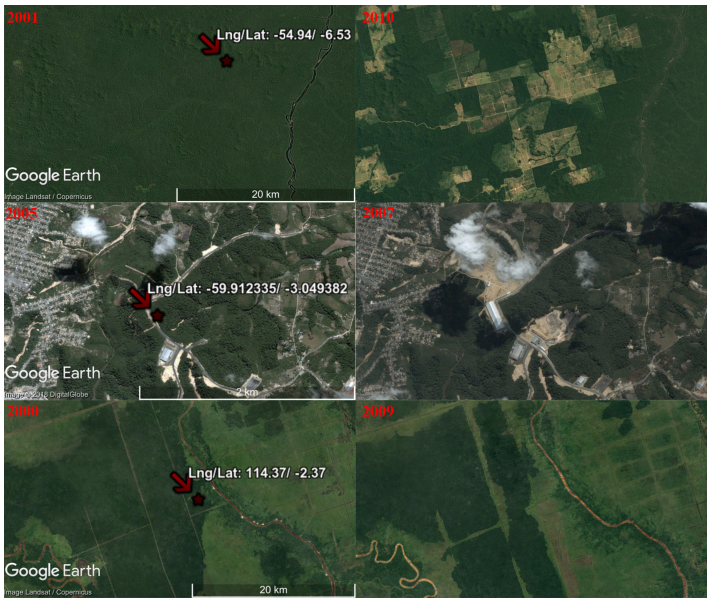

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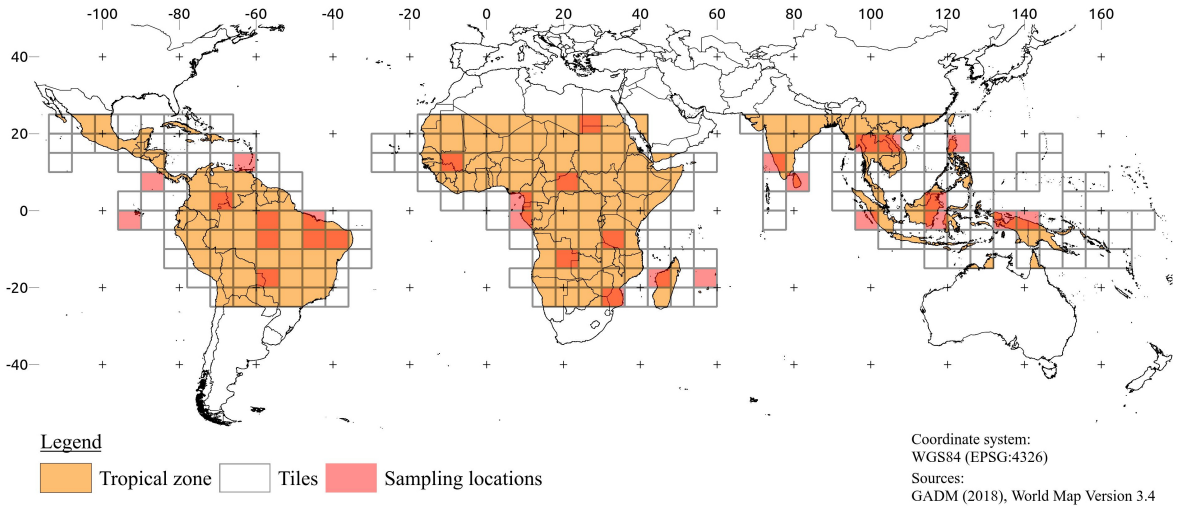

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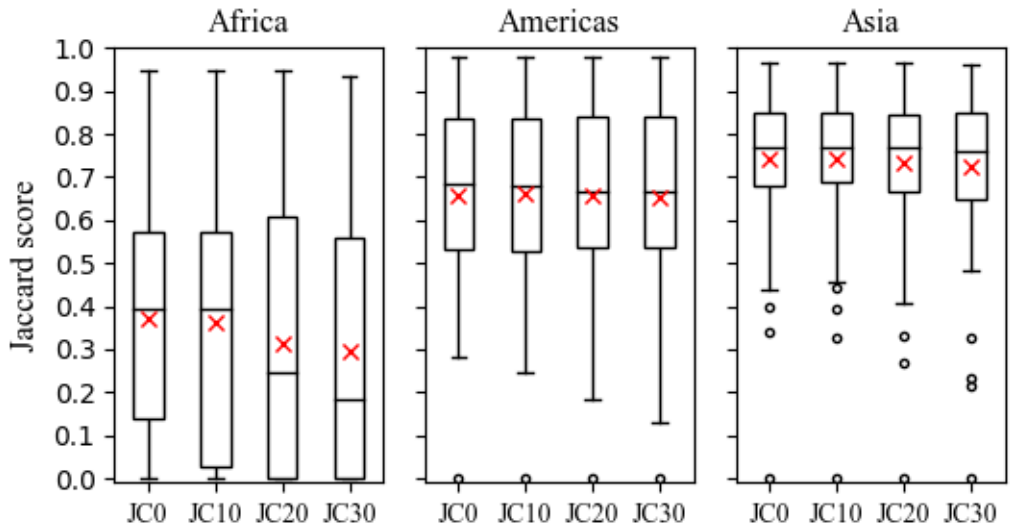


Figure 4: Jaccard score to determine tree cover similarity used to develop forest definition

Table 1: Confusion matrix for accuracy assessment

		Reference											
	Cls	10	20	25	30	40	50	60	80	90	Tot	UAc	Om
Prediction	10	732	38	62	15	16	2	3	5	0	873	.84	.16
	20	42	751	57	189	31	12	0	17	4	1103	.68	.32
	25	29	202	1155	173	22	10	5	11	4	1611	.72	.28
	30	36	187	32	1466	73	21	0	17	0	1832	.80	.20
	40	14	21	4	41	352	1	1	2	1	437	.81	.19
	50	0	5	3	10	4	50	0	1	0	73	.68	.32
	60	2	1	0	3	0	2	18	2	0	28	.64	.36
	80	3	4	0	1	1	1	0	50	0	60	.83	.17
	90	0	0	0	1	0	0	0	3	5	9	.56	.44
	Tot	858	1209	1313	1899	499	99	27	108	14	6026		
	PAc	.85	.62	.88	.77	.71	.51	.67	.46	.36			OvAc
	Com	.15	.38	.12	.23	.29	.49	.33	.54	.64			.75

3.2 Deforestation drivers

3.2.1 Global

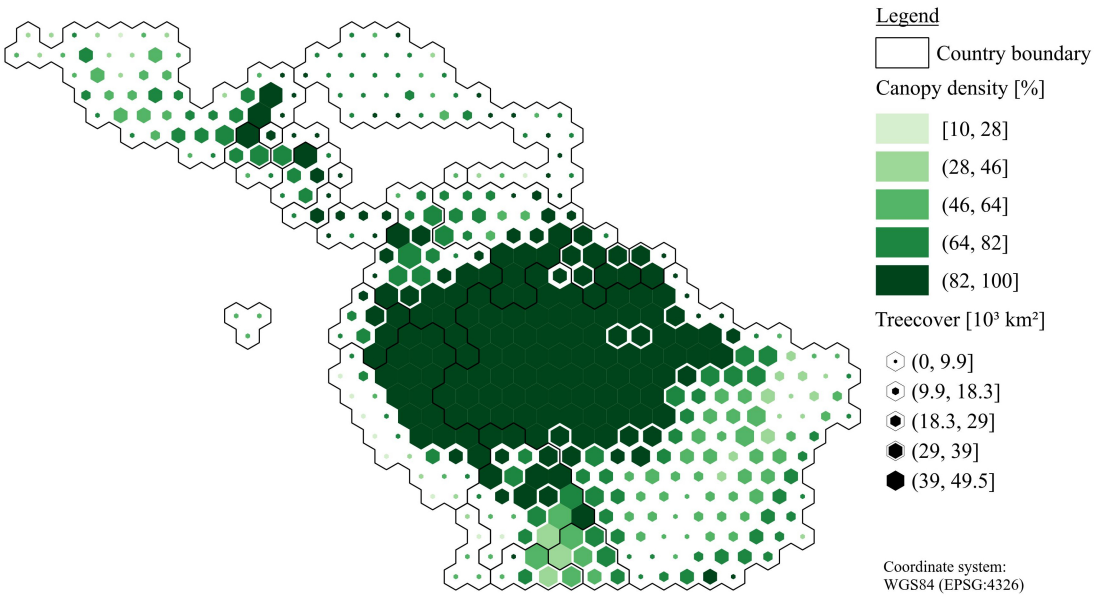
Table 2: Absolute in km^2

Type	Class		Americas	Asia	Africa
Agriculture	Cropland	rel.	24.37	18.37	25.01
		abs.	95908	38719	44368
	Grassland	rel.	46.19	8.41	50.46
		abs.	181781	17726	89516
Forestry/Plantations	Regrowth	rel.	14.40	70.27	18.61
		abs.	56671	148111	33014
	Shrubland	rel.	12.69	1.11	3.77
		abs.	49941	2340	6688
Urban/Mining	Artificial	rel.	0.41	0.46	0.71
		abs.	1614	970	1260
	Bareland	rel.	0.10	0.03	0.09
		abs.	394	63	160
Natural	Wetland	rel.	1.50	0.97	1.23
		abs.	5903	2045	2182
	Water	rel.	0.32	0.38	0.13
		abs.	1259	801	231
Forest loss		rel.	3.87	4.68	1.69
		abs.	393550	210774	177400
Forest cover		abs.	10223187	4457940	10496591

3.2.2 Americas

3.2.3 Asia

3.2.4 Africa



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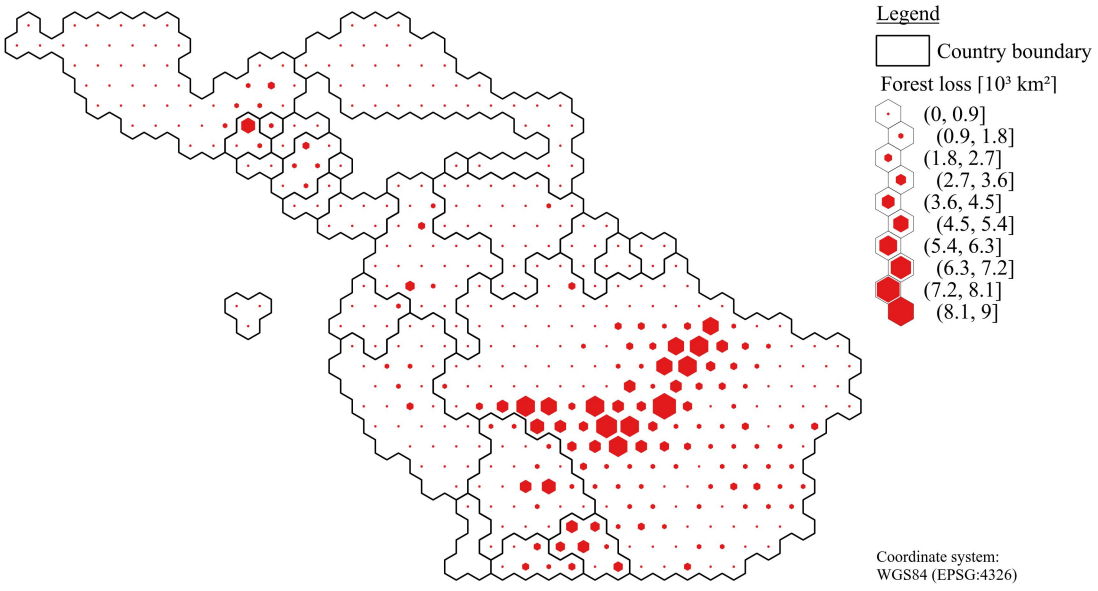

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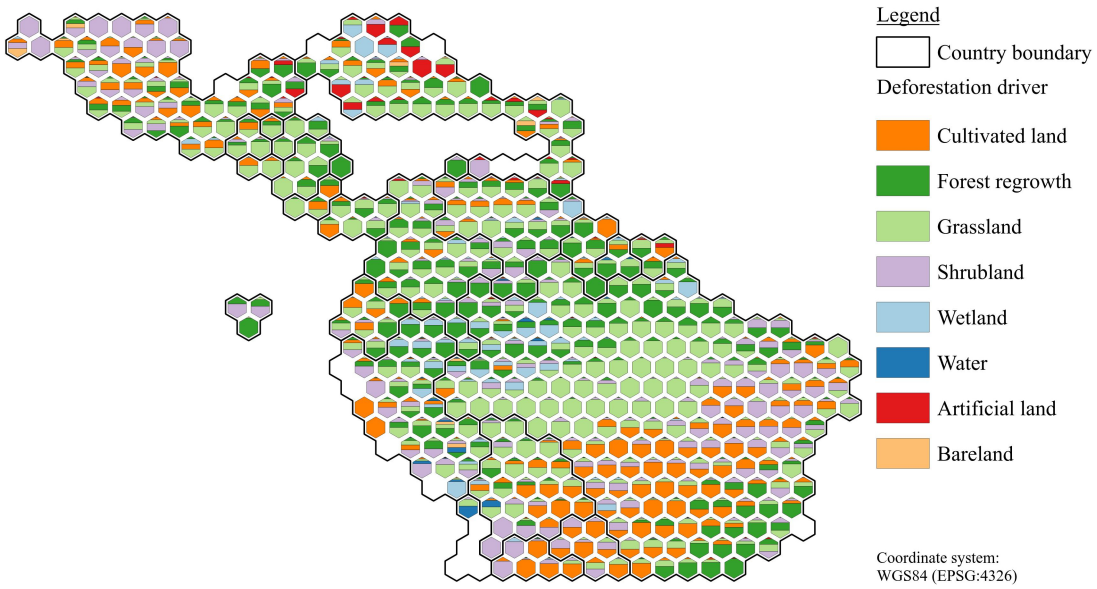

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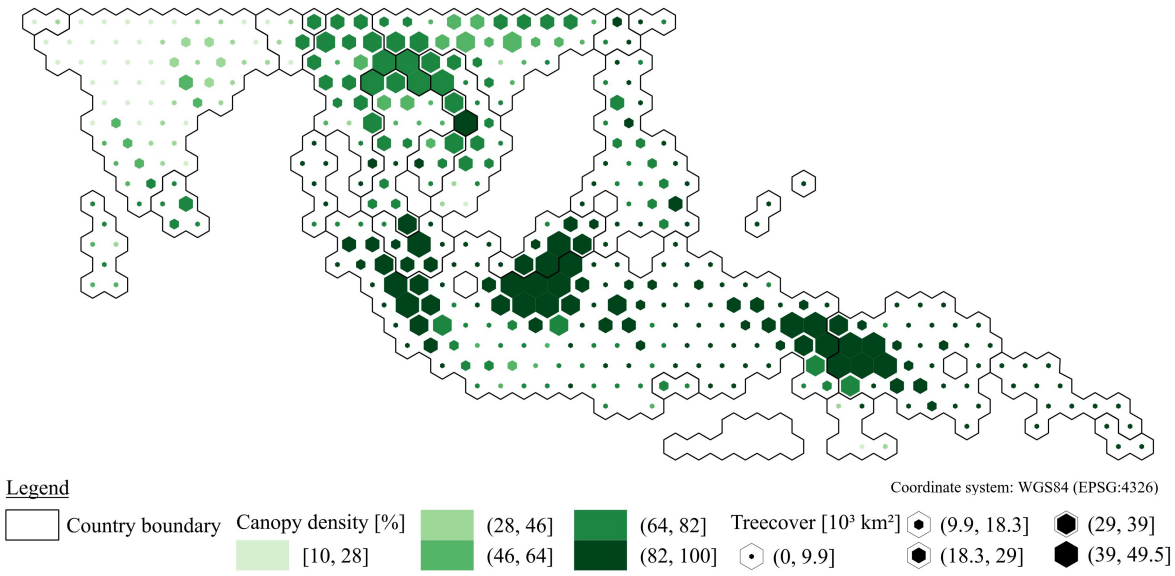

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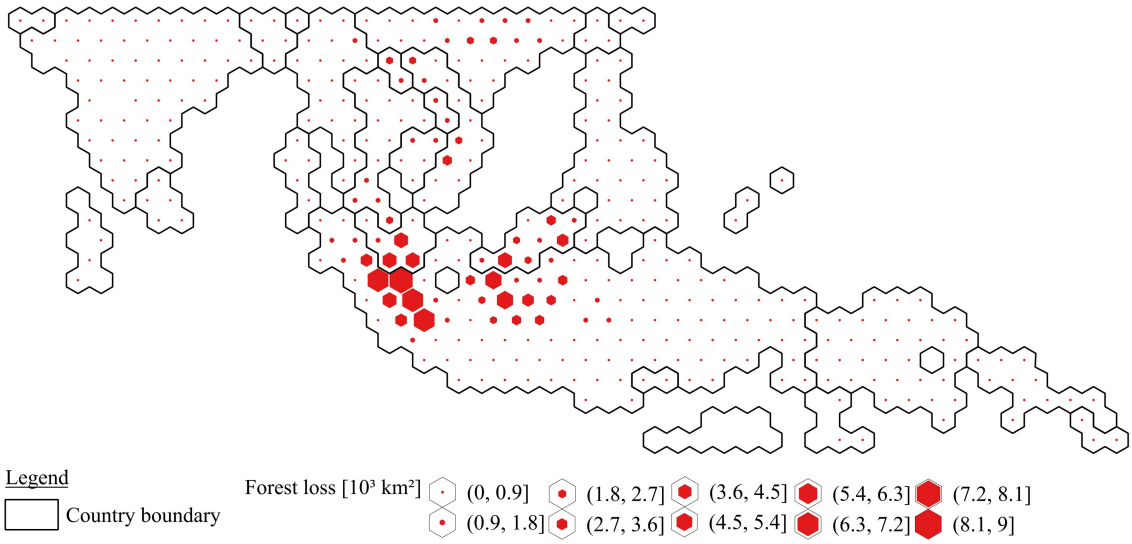

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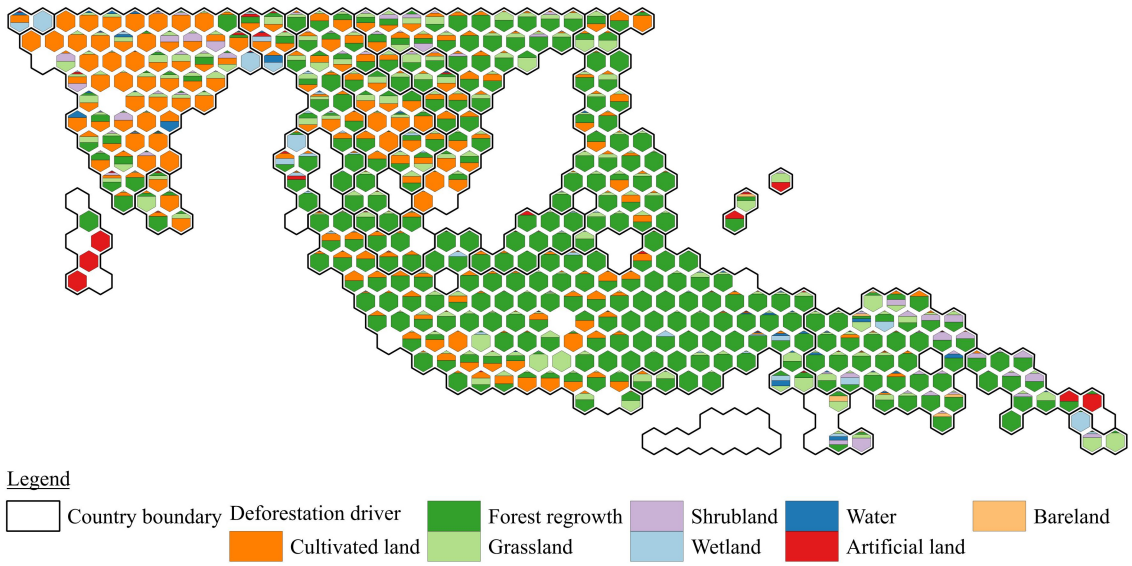

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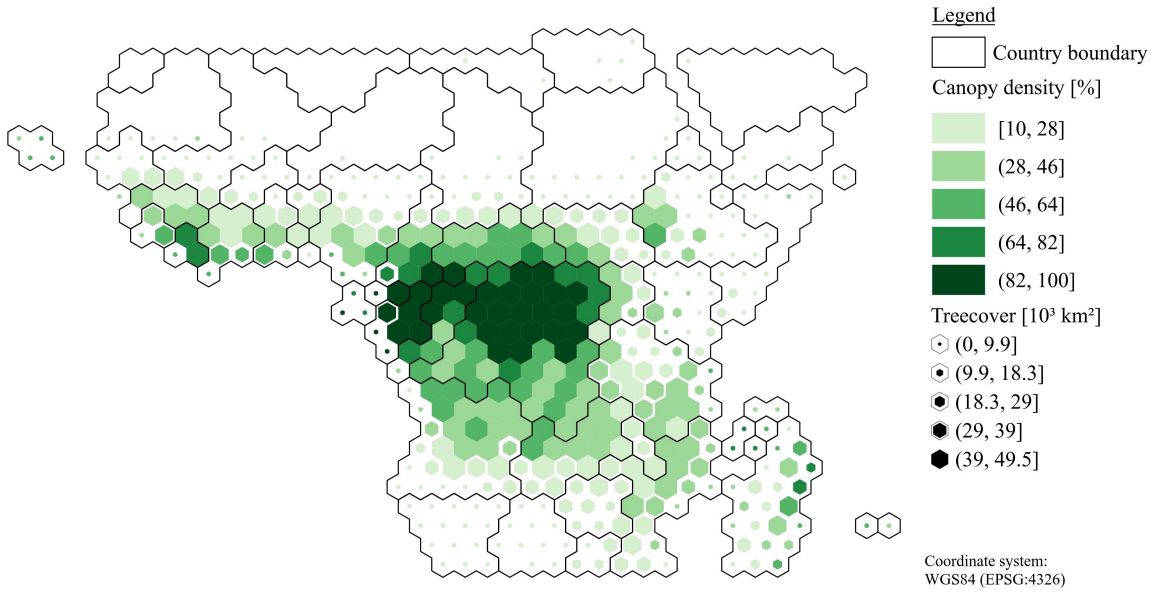

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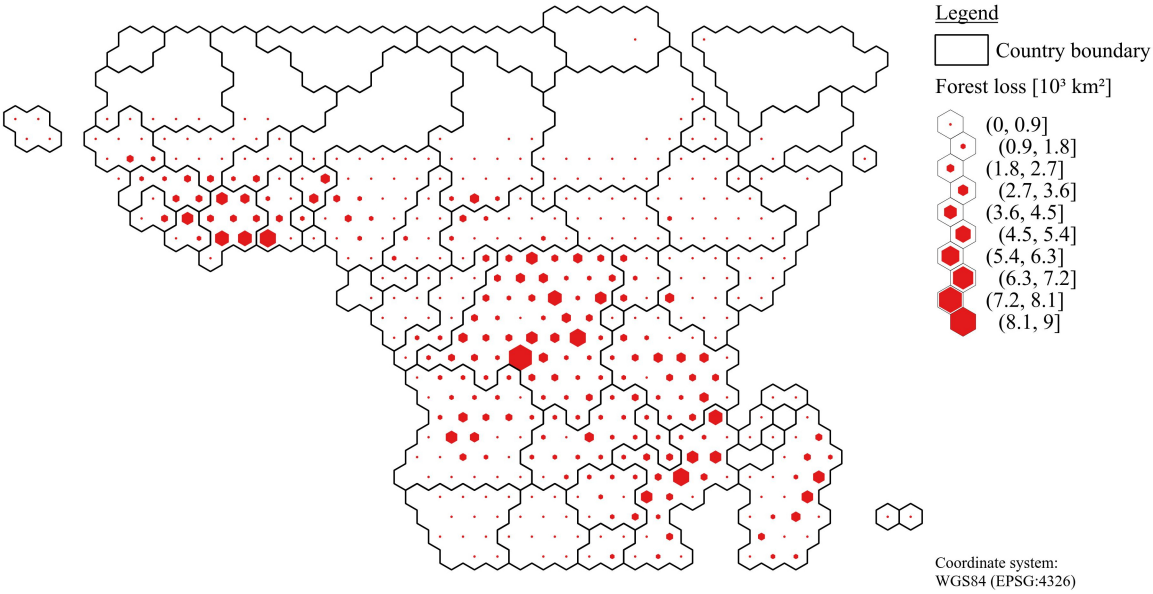

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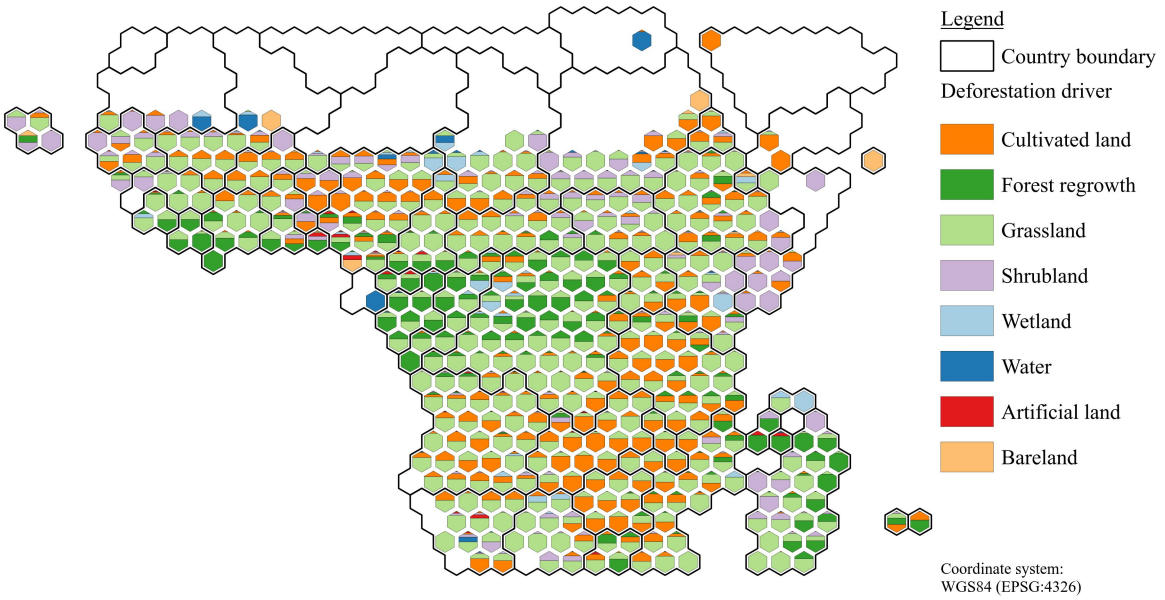
Legend
Country boundary
Deforestation driver
Cultivated land
Forest regrowth
Grassland
Shrubland
Wetland
Water
Artificial land
Bareland
Coordinate system:
WGS84 (EPSG:4326)

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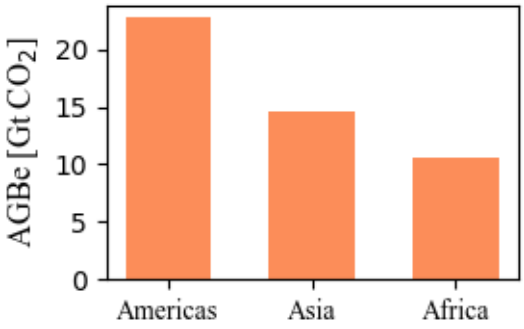
3.3 Deforestation emissions

table agbe emissions, graph agbe per driver, graph soce per driver, merge soce and agbe in one graph drivers per country



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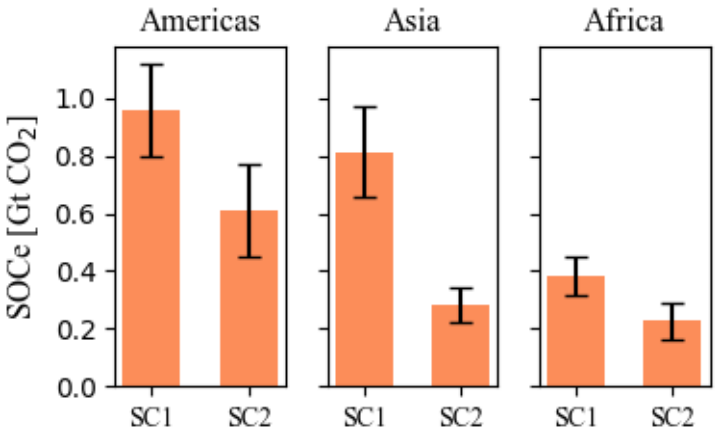
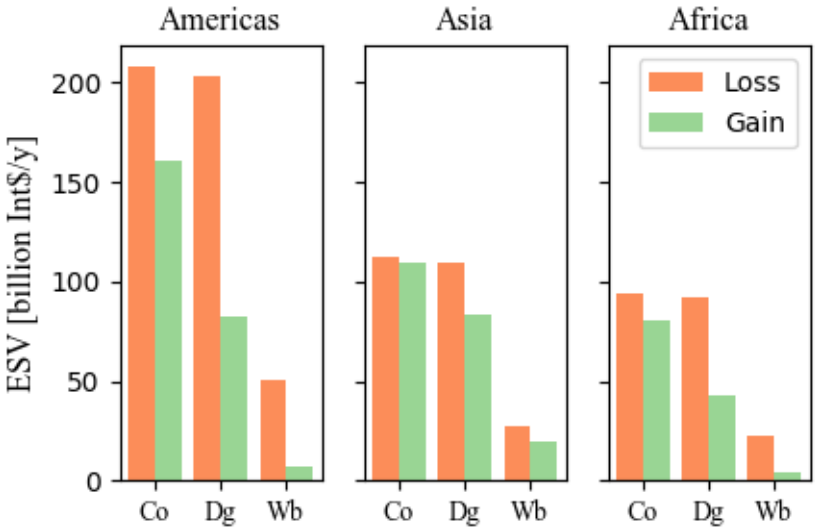


Figure 15:

Table 3: Soil organic carbon emissions

Region	SC1 [Gt CO_2]			SC2 [Gt CO_2]			SC3 [Gt CO_2]		
	min	mean	max	min	mean	max	min	mean	max
Americas	0.80	0.96	1.12	0.45	0.61	0.77	0.43	0.59	0.76
Asia	0.66	0.81	0.97	0.22	0.28	0.34	0.22	0.28	0.33
Africa	0.32	0.39	0.45	0.17	0.23	0.29	0.16	0.23	0.29

3.4 Ecosystem service value balance



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Acknowledgements

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List of Abbreviations

FAO Food and Agriculture Organization of the United Nations
GFC Global Forest Change
GIS Geographic Information System
GLC30 GlobeLand30
GTiff Geo-Tiff
IPCC Intergovernmental Panel on Climate Change
LULC Land Use/Land Cover
POK Pixel-Object-Knowledge
R-PIN Readiness Plan Idea Note
R-PP Readiness Preparation Proposal
UTM Universal Transverse Mercator
WGS84 World Geodetic System 1984

Appendix

Wyrażam zgodę na udostępnienie mojej pracy w czytelniach Biblioteki SGGW w tym w Archiwum Prac Dyplomowych SGGW.

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