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Figures S1 and S2 show composing sources of the ARZ/PRZ ratio, for a country-wise and DU-wise approach, i.e., the country-wise and DU-wise ARZ and PRZ sums are visible. The regression lines serve as orientation lines, in order to understand each country's or DU's position within the continental context. The country-wise regression lines are both depicted for (i) all countries and (ii) for all countries without NO, SE, FI, which exhibit particular high ARZ values. Similarly, the DU-regression is depicted for (i) all DUs and for (ii) all DUs without Nordic DUs, which exhibit again particularly high ARZ values.

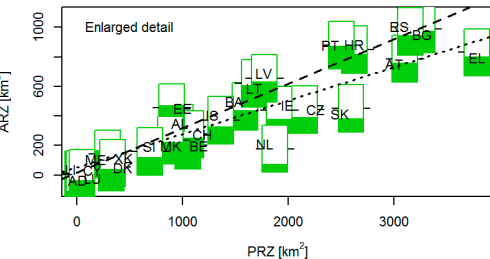


Figure S1. Country-wise comparison of ARZ/PRZ ratios dependent on the individual overall extents. Due to extra-ordinary high ARZ abundance for three Nordic countries (NO, FI, SE), regression lines were calculated with/without them. The small graph displays the indicated detail.

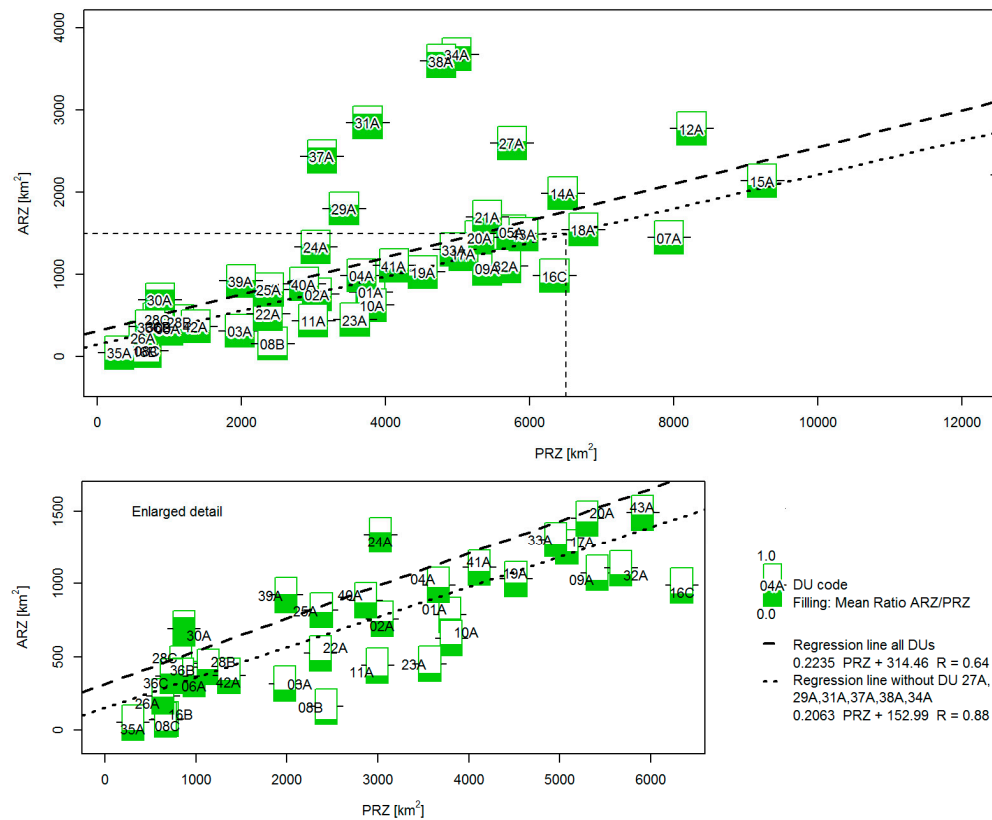


Figure S2. DU-wise comparison between ARZ and PRZ. Due to extra-ordinary high ARZ abundance for some Nordic DUs (27A, 29A, 31A, 37A, 38A, 34A), regression lines were calculated with/without them. The small graph displays the indicated detail.

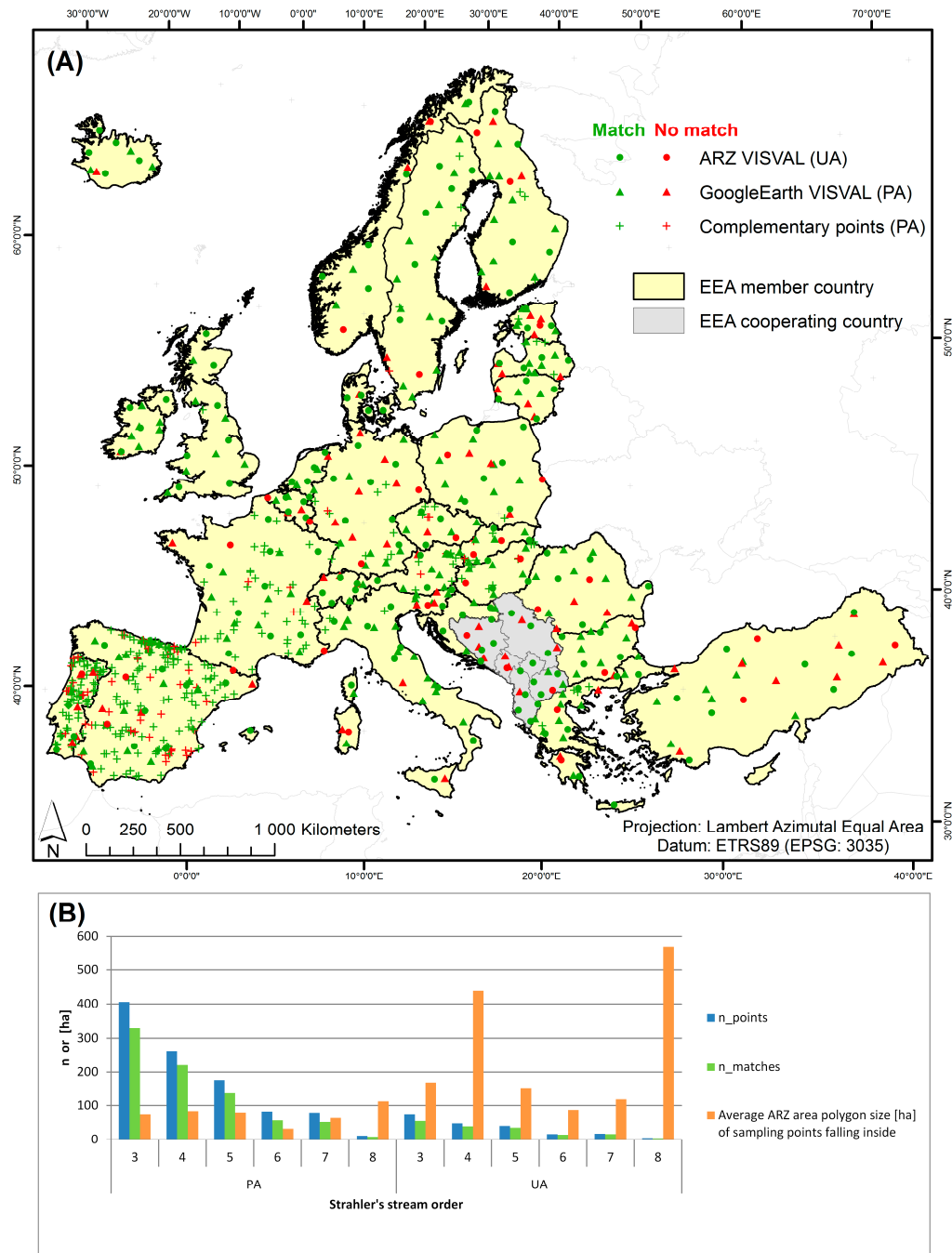


Figure S3. (A) Spatial distribution of the visual validation points and complementary points used in the accuracy assessment; (B) Number of checkpoints and matches as well as checkpoint's containing ARZ polygon size (average) per Strahler's stream order and accuracy type (Producer's accuracy (PA) and User's accuracy (UA)).

Table S1. Nomenclature of the Land Cover and Land Use product, including the highest level of class discrimination at level 4 (level 1 is compatible with the MAES ecosystem types), and MS degree assigned to each class.

Level 1	Level 2	Level 3	Level 4	MS Assigned
1 Urban	1.1 Urban fabric, industrial, commercial, public, military and private units	1.1.1 Dense to medium dense urban fabric (IM.D. >30%–100% + industrial, commercial, public, military and private units)	1.1.1.1 Continuous urban fabric (in-situ based or IM.D. > 80%–100%)	0
			1.1.1.2 Dense urban fabric (IM.D. > 30%–80% + industrial, commercial, public, military and private units)	0
			1.1.1.3 Industrial or commercial units	0
		1.1.2 Low density urban fabric (IM.D. 0%–30%)	1.1.2.1 Low density urban fabric (IM.D. 0%–30%)	0
	1.2 Transport infrastructure	1.2.1 Transport infrastructure	1.2.1.1 Road networks and associated land	0
			1.2.1.2 Railways and associated land	0
			1.2.1.3 Port areas	0
			1.2.1.4 Airports	0
	1.3 Mineral extraction, dump and construction sites, land without current use	1.3.1 Mineral extraction, dump and construction sites	1.3.1.1 Mineral extraction, dump and construction sites	0
		1.3.2 Land without current use	1.3.2.1 Land without current use	0
	1.4 Green urban, sports and leisure facilities	1.4.1 Green urban areas	1.4.1.1 Green urban areas T.C.D. \geq 30%	0.5
			1.4.1.2 Green urban areas T.C.D. < 30%	0.5
		1.4.2 Sports and leisure facilities	1.4.2.1 Sports and leisure facilities T.C.D. \geq 30%	0.5
			1.4.2.2 Sports and leisure facilities T.C.D. < 30%	0.5
2 Croplands	2.1 Arable land	2.1.1 Non-irrigated arable land	2.1.1.1 Non-irrigated arable land	0
		2.1.2 Greenhouses	2.1.2.1 Greenhouses	0
		2.1.3 Irrigated arable land and rice fields	2.1.3.1 Irrigated arable land and rice fields	0
		2.1.4 Complex patterns of irrigated and non-irrigated arable land	2.1.4.1 Complex patterns of irrigated and non-irrigated arable land	0
	2.2 Permanent crops	2.2.1 Vineyards	2.2.1.1 Vineyards	0
		2.2.2 Fruit trees and berry plantations	2.2.2.1 High stem fruit trees (extensively managed)	0

3 Woodland and forest	2.3 Heterogeneous agricultural area		2.2.2.2 Low stem fruit trees and berry plantations	0
		2.2.3 Olive groves	2.2.3.1 Olive groves	0
		2.3.1 Annual crops associated with permanent crops	2.3.1.1 Annual crops associated with permanent crops	0.5
		2.3.2 Complex cultivation patterns	2.3.2.1 Complex cultivation patterns	0
		2.3.3 Land principally occupied by agriculture with significant areas of natural vegetation	2.3.3.1 Land principally occupied by agriculture with significant areas of natural vegetation	0.5
		2.3.4 Agro-forestry T.C.D. $\geq 30\%$	2.3.4.1 Agro-forestry T.C.D. $\geq 30\%$	0.5
	3.1 Broadleaved forest	2.3.5 Agro-forestry T.C.D. $< 30\%$	2.3.5.1 Agro-forestry T.C.D. $< 30\%$	0.5
		3.1.1 Riparian and fluvial Broadleaved forest	3.1.1.1 Riparian and fluvial broadleaved forest	1
		3.1.2 Broadleaved swamp forest	3.1.2.1 Broadleaved swamp forest	1
		3.1.3 Other natural & semi natural broadleaved forest	3.1.3.1 Other natural & semi natural broadleaved forest	0.5
		3.1.4 Broadleaved evergreen forest	3.1.4.1 Broadleaved evergreen forest	0.5
		3.1.5 Highly artificial broadleaved plantations	3.1.5.1 Highly artificial broadleaved plantations	0.5
	3.2 Coniferous forest	3.2.1. Riparian and fluvial coniferous forest	3.2.1.1 Riparian and fluvial coniferous forest	1
		3.2.2 Coniferous swamp forest	3.2.2.1 Coniferous swamp forest	1
		3.2.3 Other natural & semi natural coniferous forest	3.2.3.1 Other natural & semi natural coniferous forest	0.5
		3.2.4 Highly artificial coniferous plantations	3.2.4.1 Highly artificial coniferous plantations	0.5
	3.3 Mixed forest	3.3.1. Riparian and fluvial mixed forest	3.3.1.1 Riparian and fluvial mixed forest	1
		3.3.2 Mixed swamp forest	3.3.2.1 Mixed swamp forest	1
		3.3.3 Other natural & semi natural mixed forest	3.3.3.1 Other natural & semi natural mixed forest	0.5
		3.3.4 Highly artificial mixed plantations	3.3.4.1 Highly artificial mixed plantations	0.5
	3.4 Transitional woodland scrub	3.4.1 Transitional woodland scrub	3.4.1.1 Transitional woodland and scrub	0.5
			3.4.1.2 Lines of trees and scrub	0.5
	3.5 Damaged forest	3.5.1 Damaged forest	3.5.1.1 Forest damaged by fire	0.5
			3.5.1.2 Other damaged forest	0.5
4 Grassland	4.1 Managed grassland	4.1.1 Managed grassland	4.1.1.1 Managed grasslands with trees and scrubs (T.C.D. $\geq 30\%$)	0

			4.1.1.2 Managed grasslands without trees and scrubs (T.C.D. < 30%)	0
		4.2.1 Natural grasslands prevailingly with trees and scrubs	4.2.1.1 Dry grasslands with trees (T.C.D. > 30%)	0
			4.2.1.2 Mesic grasslands with trees (T.C.D. > 30%)	1
	4.2 Natural grasslands		4.2.2.1 Dry grasslands without trees (T.C.D. < 30%)	0
		4.2.2 Natural grasslands without trees and scrubs	4.2.2.2 Mesic grasslands without trees (T.C.D. < 30%)	1
			4.2.2.3 Alpine and subalpine grasslands without trees (T.C.D. < 30%)	0.5
5 Heathland and scrub	5.1 Moors and heathland	5.1.1 Moors and heathland	5.1.1.1 Heathlands and Moorlands	0.5
			5.1.1.2 Other scrub land	0.5
	5.2 Sclerophyllous vegetation	5.2.1 Sclerophyllous vegetation	5.2.1.1 Sclerophyllous vegetation	0.5
6 Sparsely vegetated land	6.1 Sparsely vegetated areas	6.1.1 Sparsely vegetated areas	6.1.1.1 Sparsely vegetated areas	0.5
			6.2.1.1 Beaches	0.5
		6.2.1 Beaches, dunes, sands	6.2.1.2 Dunes	0
			6.2.1.3 River banks	1
	6.2 Bare soil, rock, perennial snow & ice		6.2.2.1 Bare rocks and rock debris	0
		6.2.2 Bare rocks, burnt areas, glaciers and perpetual snow	6.2.2.2 Burnt areas (except burnt forest)	0.5
			6.2.2.3 Glaciers and perpetual snow	0
7 Wetland	7.1 Inland marshes	7.1.1 Inland freshwater marshes	7.1.1.1 Inland freshwater marshes	1
		7.1.2 Inland saline marshes	7.1.2.1 Inland saline marshes	0.5
	7.2 Peat bogs	7.2.1 Peat bogs	7.2.1.1 Exploited peat bog	0.5
			7.2.1.2 Unexploited peat bog	0.5
8 Lagoons, coastal wetlands and estuaries	8.1 Maritime wetlands	8.1.1 Salt marshes & salines	8.1.1.1 Salt marshes	0.5
			8.1.1.2 Salines	0
		8.1.2 Intertidal flats	8.1.2.1 Intertidal flats	0.5
	8.2 Marine waters	8.2.1 Coastal lagoons	8.2.1.1 Coastal lagoons	0
		8.2.2 Estuaries	8.2.2.1 Estuaries	0
9 Rivers and lakes	9.1 Water courses	9.1.1 Interconnected running water courses	9.1.1.1 Permanent interconnected running water courses	0

				9.1.1.2 Intermittently running water courses	0
				9.1.1.3 Highly modified natural water courses and canals	0
				9.1.2 Separated water bodies belonging to the river system (dead side-arms, flood ponds)	0
				9.2.1.1 Natural water bodies	0
				9.2.1.2 Ponds and lakes with completely man-made structure	0
				9.2.1.3 Intensively managed fish ponds	0
				9.2.1.4 Standing water bodies of extractive industrial sites	0
10 Marine (other)	10.1 Marine (other)	10.1.1 Marine (other)	10.1.1.1 Marine (other)		

IM.D. = Imperviousness Degree; T.C.D. = Tree Crown Density