

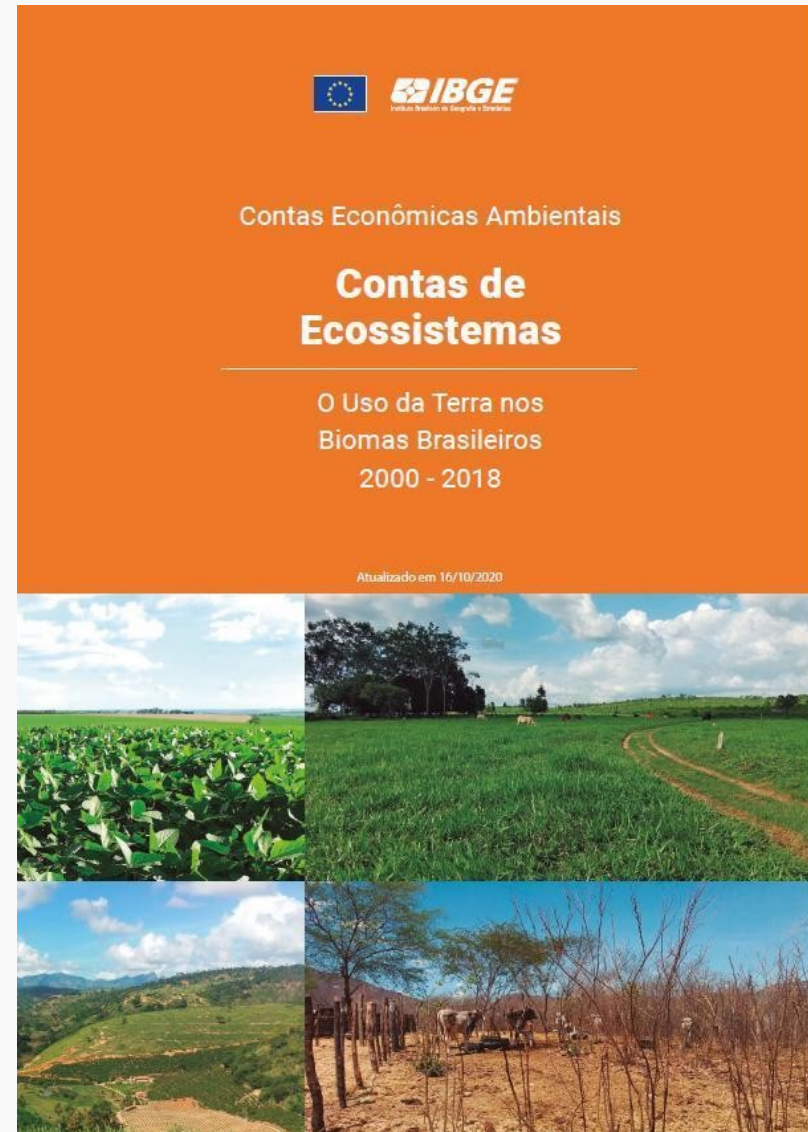
Ecosystem Extent Accounts in Brazil

Department of Natural Resources and Environmental Studies

June/2021

Ecosystem Extent Accounts

Land use in Brazilian biomes: 2000-2018



Land use and land cover monitoring

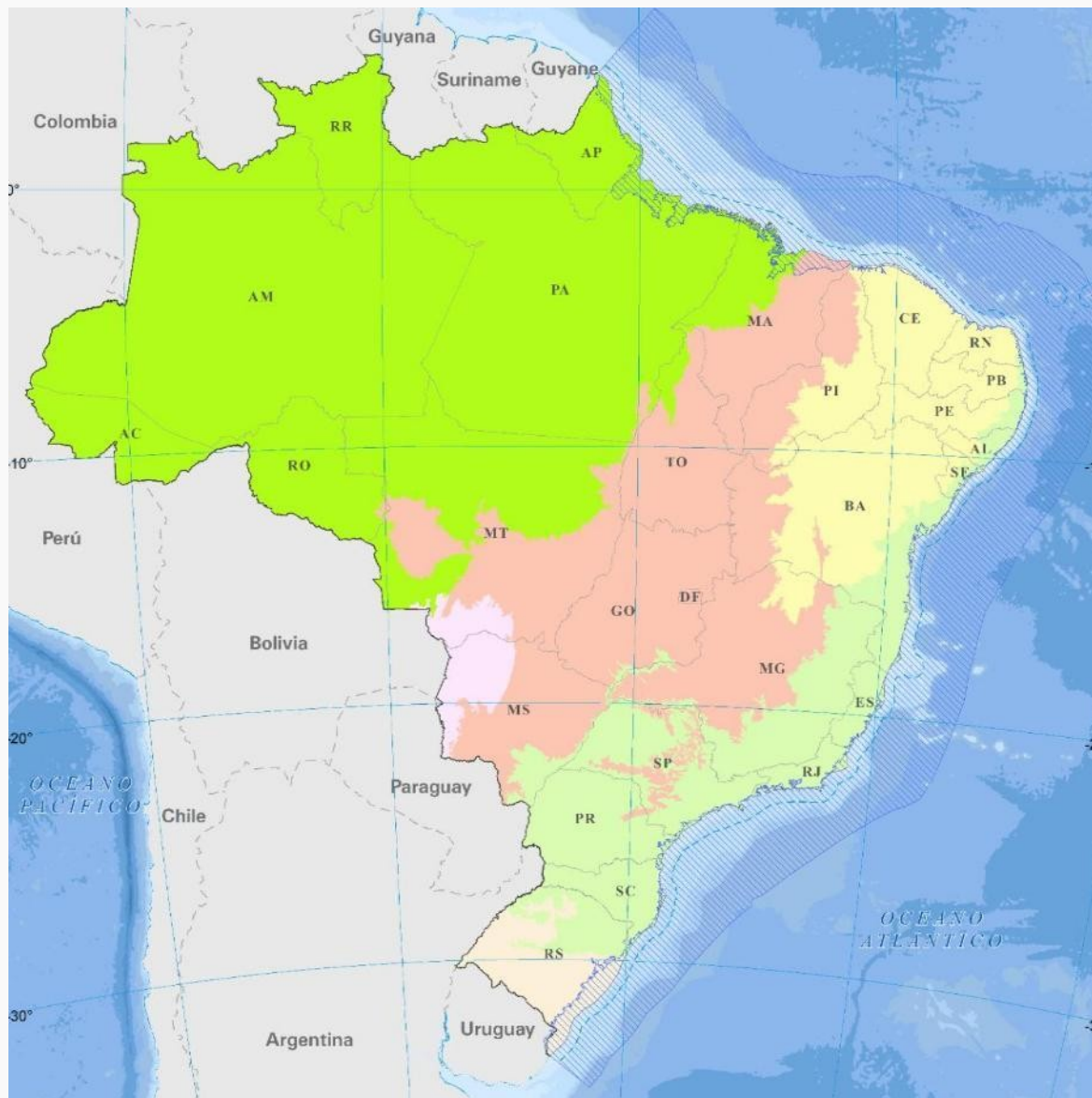


Anthropized areas

Natural areas



Ecosystem Extent Accounts





Variáveis	Total		Bioma			
			Amazônia		Cerrado	
	Áreas naturais	Áreas antropizadas	Áreas naturais	Áreas antropizadas	Áreas naturais	Áreas antropizadas
2000						
Extensão de abertura	5 877 298	2 510 306	3 684 512	450 865	1 185 192	790 693
Adições	2 955	460 530	1 282	248 427	509	135 983
Reduções	326 066	137 419	193 539	56 170	96 274	40 218
2010						
Extensão	5 554 187	2 833 417	3 492 255	643 122	1 089 427	886 458
Adições	1 509	107 787	385	39 064	284	37 357
Reduções	69 316	39 980	27 376	12 073	23 068	14 573
2012						
Extensão	5 486 380	2 901 224	3 465 264	670 113	1 066 643	909 242
Adições	3 592	93 615	2 043	39 654	320	35 913
Reduções	49 030	48 177	21 123	20 574	18 392	17 841
2014						
Extensão	5 440 942	2 946 662	3 446 184	689 193	1 048 571	927 314
Adições	2 118	60 715	644	36 413	314	16 599
Reduções	36 435	26 398	23 541	13 516	8 417	8 496
2016						
Extensão	5 406 625	2 980 979	3 423 287	712 090	1 040 468	935 417
Adições	12 894	74 296	8 185	38 566	2 706	25 583
Reduções	32 098	55 245	16 761	30 057	10 688	17 671
2018						
Extensão final	5 387 421	3 000 030	3 414 711	720 599	1 032 486	943 329
Saldo das mudanças						
Absoluto (km ²)	(-) 489 877	489 724	(-) 269 801	269 734	(-) 152 706	152 636
Percentual (%)	(-) 8,34	19,51	(-) 7,32	59,83	(-) 12,88	19,30
Movimentação						
Absoluto (km ²)	536 013	1104 162	294 879	534 514	160 972	350 234
Percentual (%)	9,12	43,99	8,00	118,55	13,58	44,29

The **higher** absolute totals of **natural area reduction** were concentrated on the **Amazônia** and **Cerrado** biomes (**86,2%**)

BRAZIL - CHANGES MATRIX (KM²)

		Artificial Surfaces	Cropland	Managed Pasture	Mosaic of Occupations in Forest Area	Silviculture	Forest Cover
Opening stock (2016)		37.773	643.769	1.118.893	843.927	83.646	3.7
1. Additions to stock	Artificial Surfaces	0	0	0	24	0	
	Cropland	28	0	2.172	144	298	
	Managed Pasture	49	14.039	0	2.820	1.751	
	Mosaic of Occupations in Forest Area	206	3.110	12.897	0	373	
	Silviculture	2	257	191	192	0	
	Forest Tree Cover	89	758	4.116	13.617	70	
	Wetland	0	0	1	0	0	
	Savannah, Shrubland, Grassland	58	4.744	5.579	0	443	
	Mosaic of Occupations in Savannah, Shrubland	118	1.331	1.038	0	130	
	Inland Water Bodies	0	0	0	0	0	
	Coastal Water Bodies	0	0	0	0	0	
	Barren Land	0	0	0	0	0	
Total additions to stock		550	24.239	25.994	16.797	3.065	
2. Reductions in stock	Artificial Surfaces	0	28	49	206	2	
	Cropland	0	0	14.039	3.110	257	
	Managed Pasture	0	2.172	0	12.897	191	
	Mosaic of Occupations in Forest Area	24	144	2.820	0	192	
	Silviculture	0	298	1.751	373	0	
	Forest Tree Cover	0	0	0	10.959	0	
	Wetland	0	0	0	0	0	
	Savannah, Shrubland, Grassland	0	191	319	0	42	
	Mosaic of Occupations in Savannah, Shrubland	0	369	695	0	76	
	Inland Water Bodies	5	22	20	13	0	
	Coastal Water Bodies	0	0	0	0	0	
	Barren Land	0	0	0	0	0	
Total reductions in stock		29	3.224	19.693	27.558	760	
Closing stock (2018)		38.294	664.784	1.125.194	833.166	85.951	3.7

(continues)

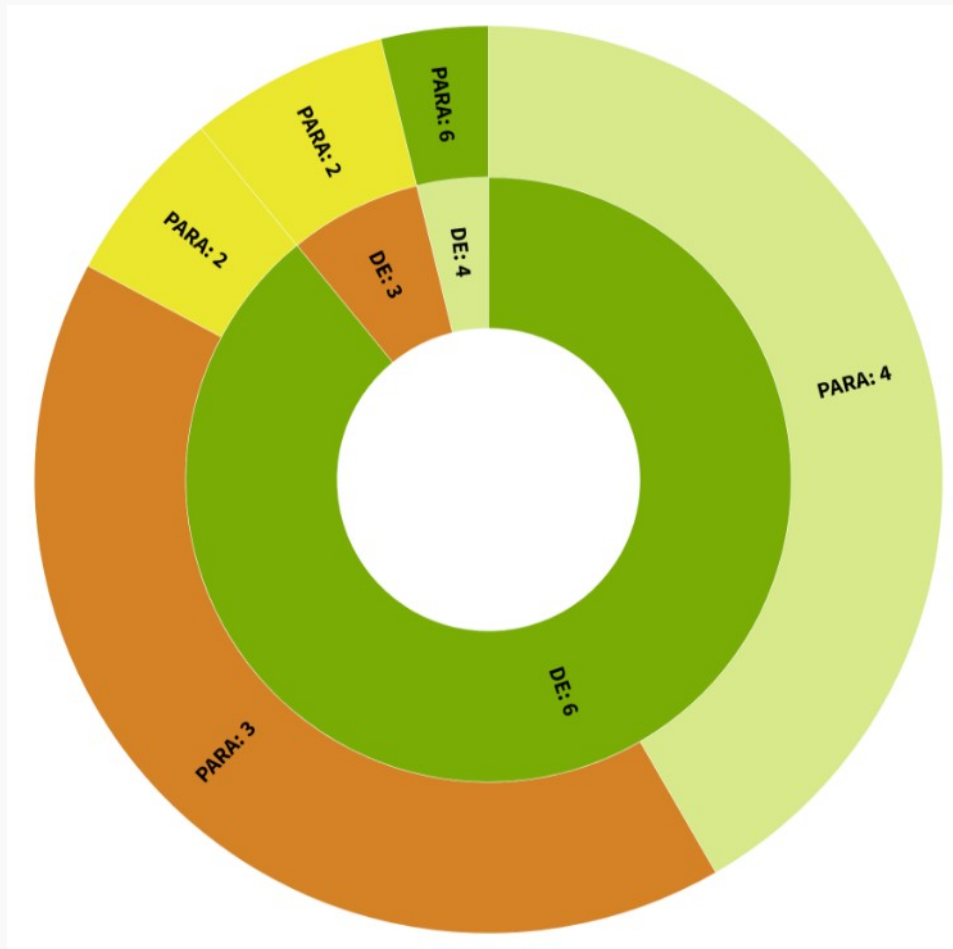
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|---|---|
| 2 Cropland | 6 Forest Tree Cover |
| 3 Managed Pasture | 8 Savannah, Shrubland, Grassland |
| 4 Mosaic of Occupations in Forest Area | 9 Mosaic of Occupations in Savannah, Shrubland, Grassland Area |
| 5 Silviculture | |

Reductions in Forest Tree Cover giving way to Mosaic of Occupations, Managed Pastures and Cropland

Conversions between Managed Pastures and Croplands

Amazônia Biome

2050 Goals, milestones and Targets ⁷	Headline indicators ⁸
<p>Goal A: The area, connectivity and integrity of natural ecosystems increased by at least [X%] supporting healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity;</p> <p>2030 Milestones: (i) The area, connectivity and integrity of natural systems increased by at least [5%]. (ii) The number of species that are threatened is reduced by [X%] and the abundance</p>	<p>A.0.1 Extent of selected natural ecosystems (forest, savannahs and grasslands, wetlands, mangroves, saltmarshes, coral reef, seagrass, macroalgae and intertidal habitats)</p> <p>A.0.2 Living Planet Index</p> <p>A.0.3 Red list index</p> <p>A.0.4 Species habitat index</p> <p>A.0.5 The proportion of populations maintained within species*</p>

Current land and ecosystem extent accounts provide information on some of the selected ecosystems.

In-house expertise is focused on terrestrial ecosystems.

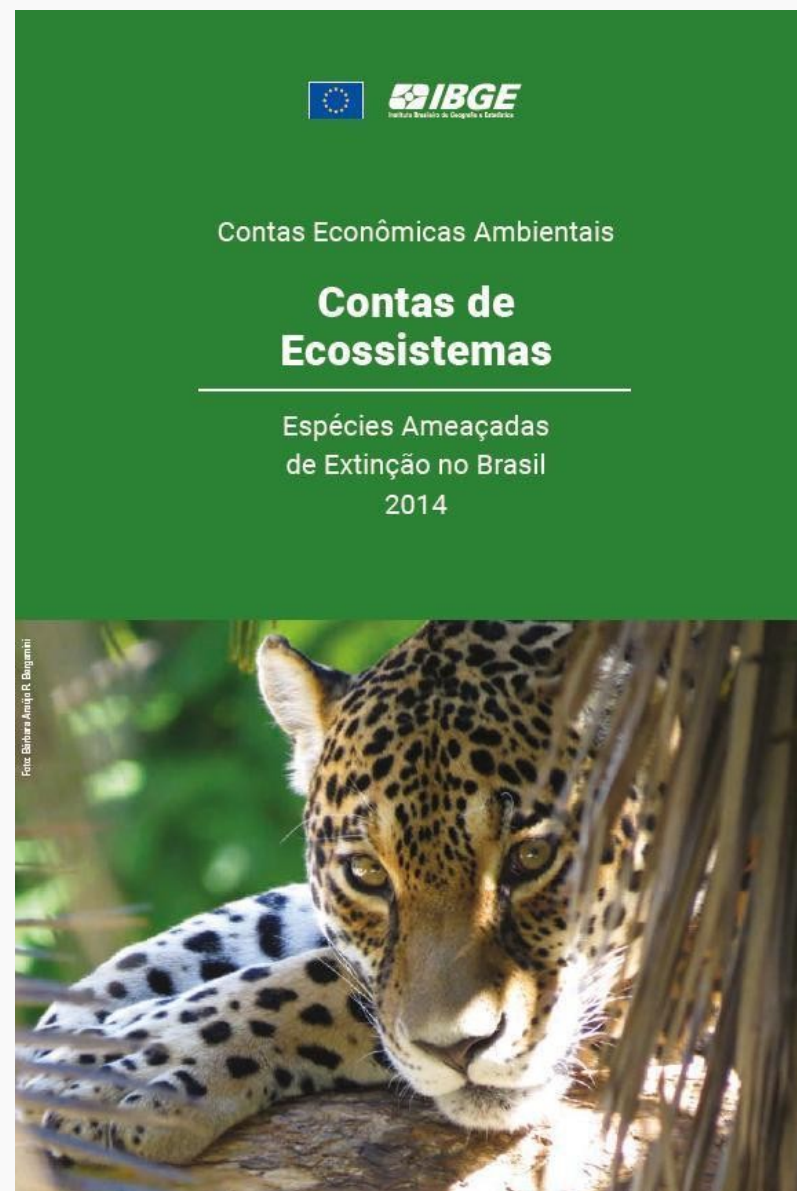
Collaborations to make advances on aquatic ecosystems

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Other accounts can fulfill additional indicators, as those compiling information on biodiversity

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Species Threatened with Extinction in Brazil



Next steps

Refining ecosystem type
mapping using existing
thematic information

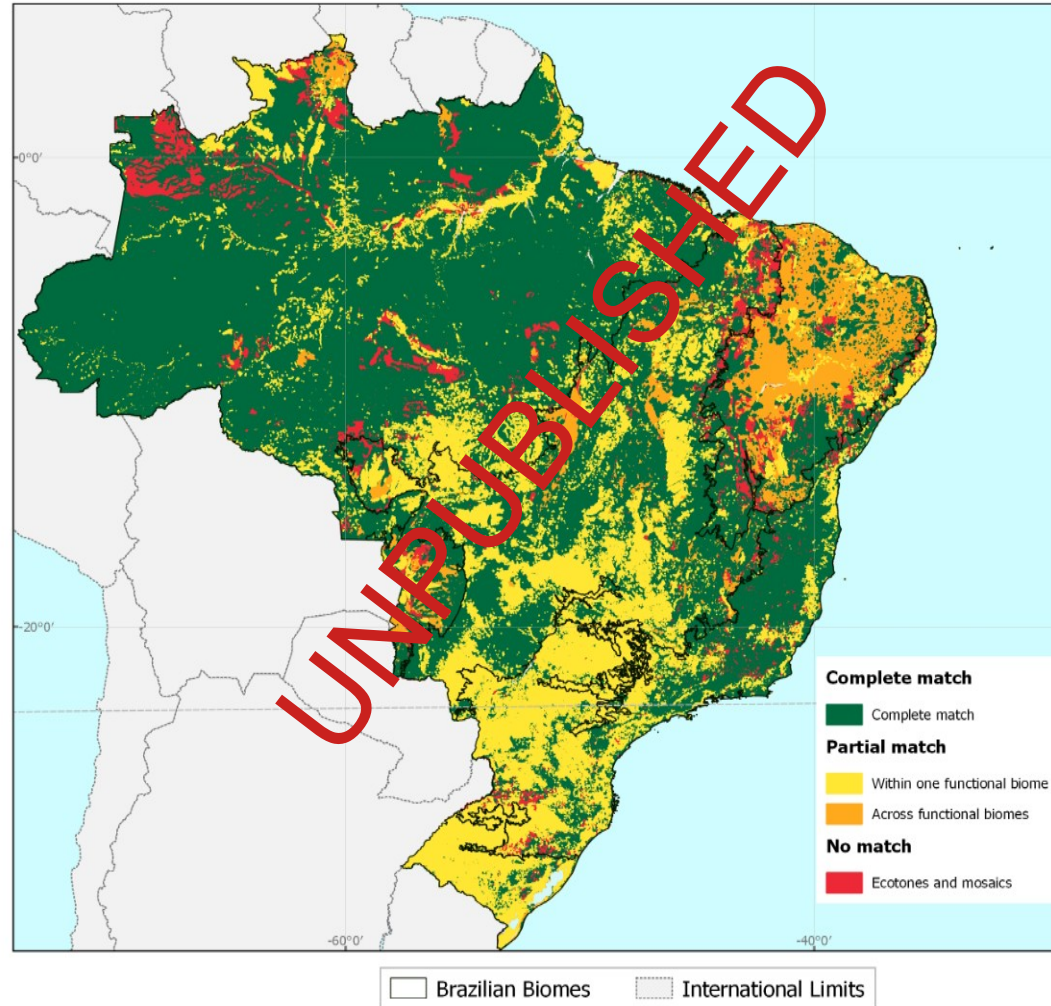


Next steps

Cross-walk between national classifications and the IUCN Typology

Table 2 – Area extent according to IUCN classes by Ecosystem Functional Group (km²).

BIOME	EFG	NAME (ECOSYSTEM FUNCTIONAL GROUP)	AREA (km ²)	TOTAL
T1 Tropical-subtropical forests	T1.1	Tropical/Subtropical lowland rainforests	2,558,730	
	T1.2	Tropical/Subtropical dry forests and scrubs	2,989	
	T1.3	Tropical/Subtropical montane rainforests	1,977	
	T1.4	Tropical heath forests	13,053	2,859,749
	T1.P	One to Many within T1	150,120	150,120
TOTAL T1				3,009,869
T4 Savannas and Grasslands	T4.2	Pyric tussock savannas	339,533	
	T4.5	Temperate grasslands	11,000	350,533
	T4.P	One to many within T4	65,799	65,799
TOTAL T4				416,332
T6 Polar Alpine	T6.5.P	Tropical alpine meadows and shrublands (partial correlation)	11,232	11,232
T7 Intensive land-use systems	T7.2	Sown pastures and old fields	1,125,044	
	T7.3	Plantations	85,907	
	T7.4	Urban and infrastructure lands	38,276	1,249,227
	T7.P	One to many within T7	664,781	664,781
TOTAL T7				1,914,008
TF1 Palustrine wetlands	TF1.1	Tropical flooded forests and peat forests	2,948	
	TF1.4	Seasonal flooded marshes	13,683	16,631
	TF1.P	One to many within TF1	76,745	76,745
	TOTAL TF1			
MT2 Supralittoral coastal systems	MT2.1	Coastal scrublands and grasslands	4,253	4,253
MFT1 Brackish tidal systems	MFT1.2	Intertidal forests and shrublands	14,660	
	MFT1.3	Coastal saltmarshes	3,136	17,796
	TOTAL MFT1			
ONE TO MANY	PARA	One to Many across Biomes	853,188	
	WATER	Water (One-to-Many)	350,611	350,611
TOTAL ONE TO MANY				1,203,799
NON-MATCHING	MOSAIC	Mosaic of Land Use	1,086,486	
	ECOTN	Ecotones	989,673	
	NO MATCH	Overlay displacement	5,742	5,742
TOTAL NON-MATCHING				2,081,901
TOTAL				8,752,666



Summary

- Ecosystem extent accounts in Brazil
 - First publication in 2020, based on Land Use and Land Cover monitoring data
 - Assessment of natural area stock and changes between classes for each environmental region (Brazilian Biomes)
- CBD Indicators
 - Ecosystem accounts as an additional driver for data production and compilation
 - First accounts already useful for indicator reporting
- Next steps
 - Refining ecosystem classification
 - Collaboration with other actors (e.g. Ministry of Environment) to improve data on freshwater and marine ecosystems
 - Global typology cross-walk

Thank you

leonardo.bergamini@ibge.gov.br



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0800 721 8181