

The Brazilian experience in using land cover land use data for SEEA

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Monitoring of land cover land use in Brazil



LAND COVER/LAND USE CLASSES BRAZIL	
Color	Classes
	ARTIFICIAL SURFACES
	CROPLAND
	MANAGED PASTURE
	CROPLAND AND REMAINING FOREST MOSAICS
	SILVICULTURE
	FOREST TREE COVER
	FOREST AND FARMING ACTIVITIES MOSAICS
	SAVANNAH, SHRUBLAND, GRASSLAND
	WETLAND
	NATURAL PASTURE
	CROPLAND AND REMAINING SAVANNAH/SHRUB/GRASSLAND MOSAICS
	INLAND WATER BODIES
	COASTAL WATER BODIES
	BARREN LAND

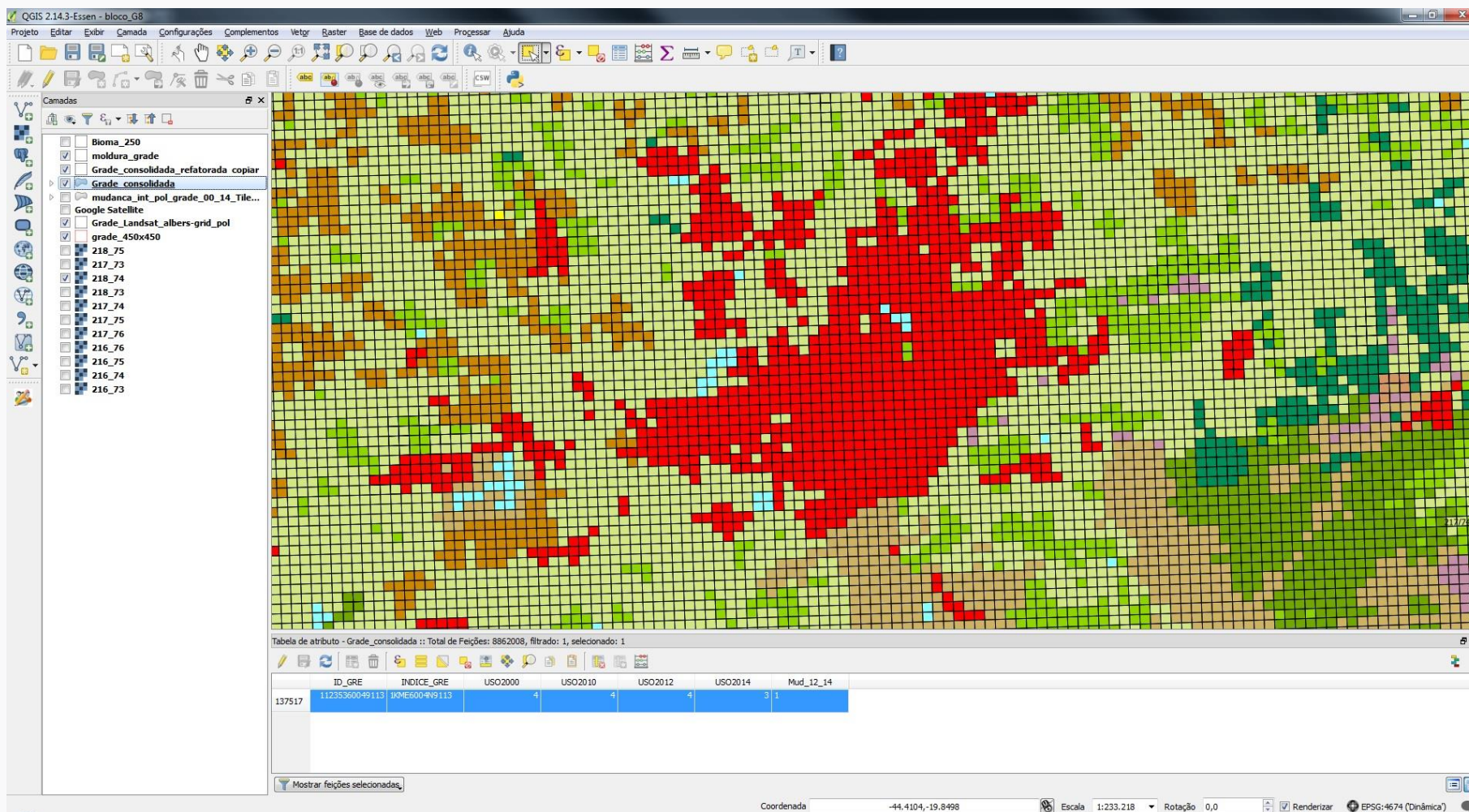
Based on:

IBGE reference classification
(CORINE programme)

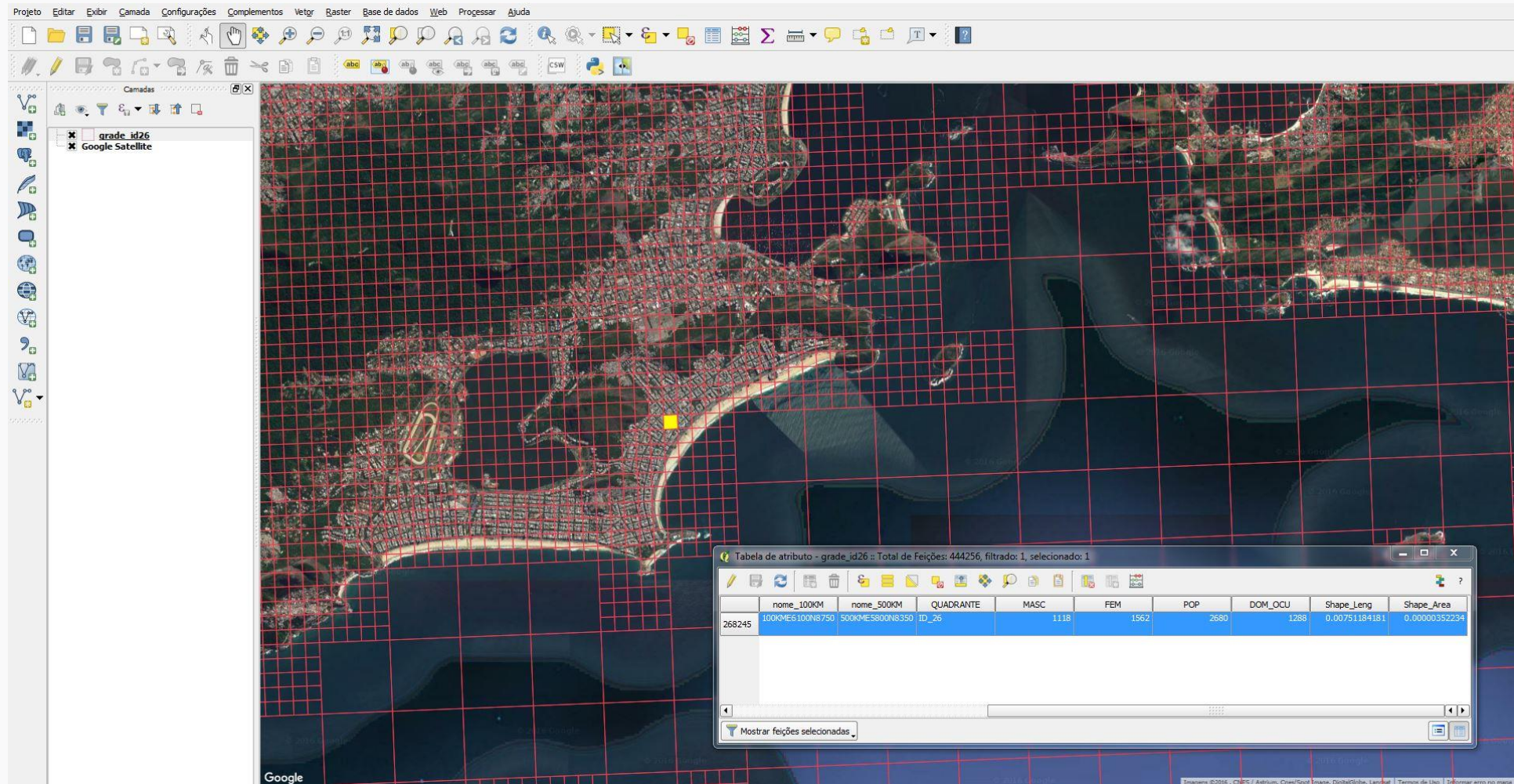
LCLU Central Framework

Land Cover Functional Unit
(JAFFRAIN, 2012)

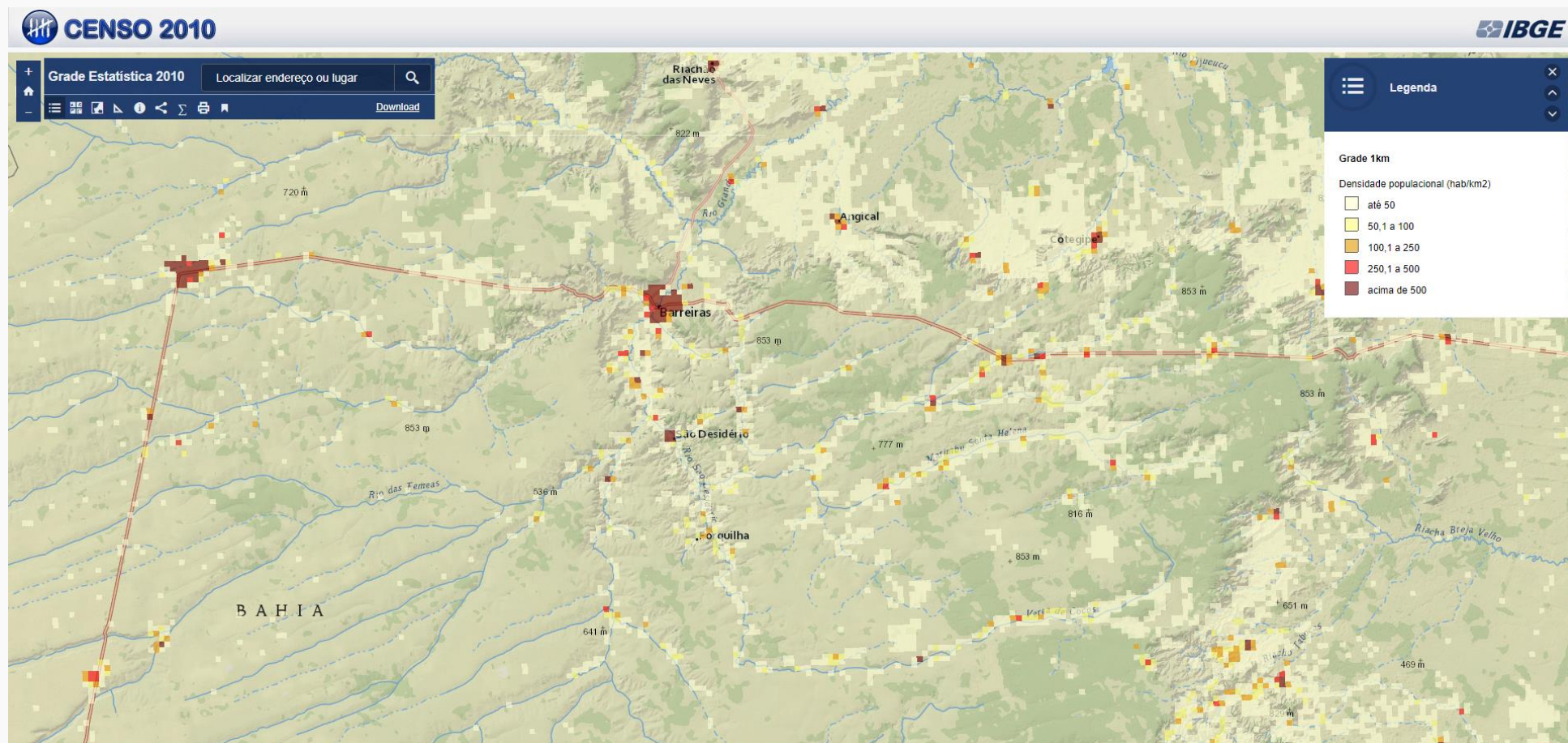
the use of a
reference grid



LAND COVER/LAND USE MAP (associated with the territorial grid 1km²)



IBGE: Statistical Territorial Grid (1 Km²) with demographic data



<http://mapasinterativos.ibge.gov.br/grade/default.html>

Physical Account for Land Cover/Use (Km²)

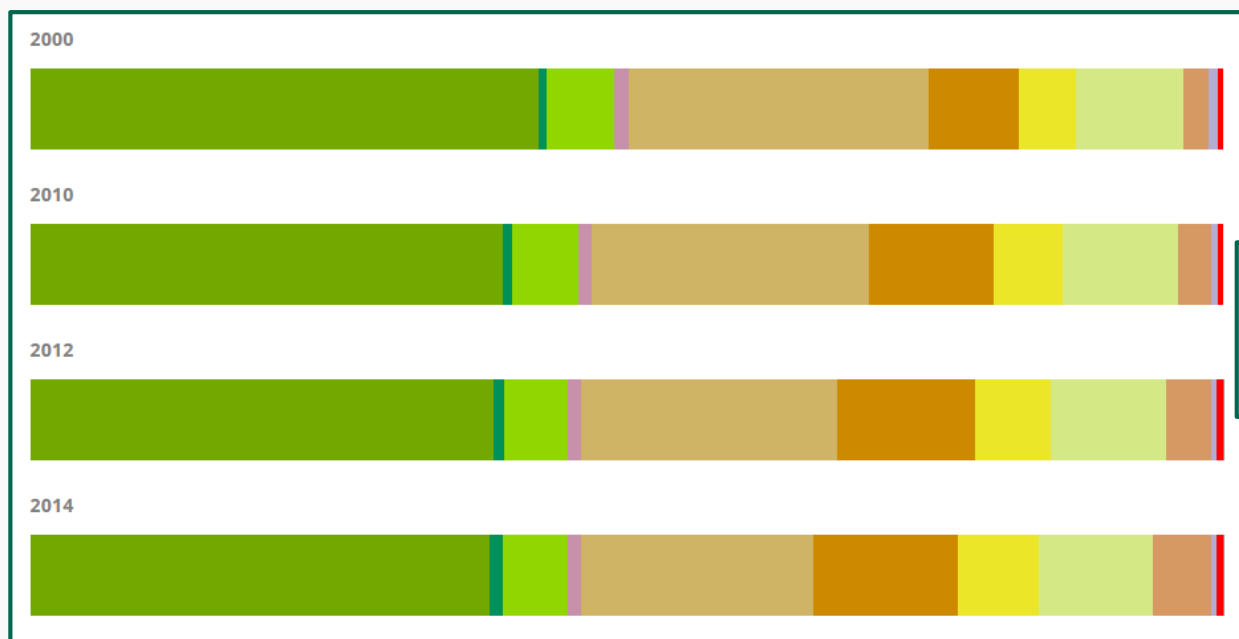
CLASSES STOCKS	Artificial Surfaces	Cropland	Managed Pasture	Cropland and Remaining Forest Mosaics	Silviculture	Forest Tree Cover	Forest and Farming Activities Mosaics	Savannah, Shrubland, Grassland	Wetlands	Nature Pasture	Cropland and Remaining Savannah/Shrub/Grassland Mosaics	Inland Water Bodies	Coastal Water Bodies	Barren Land
Opening stock (2000)	37953	411753	652214	727068	54250	3562767	566254	159313	54780	1898708	270700	128749	222461	5596
Total additions to stock	3290	89612	257696	113694	22836	754	97219	272	257	30188	64644	0	0	144
Total reductions in stock	800	2719	17262	60429	8254	256412	109615	17014	12058	188063	7924	0	0	56
Closing stock (2010)	40443	498646	892648	780333	68832	3307109	553858	142571	42979	1740833	327420	128749	222461	5684
Opening stock (2012)	41409	540171	983783	800559	75914	3247964	523583	138553	40835	1605813	397140	128749	222461	5632
Total additions to stock	1455	42270	50768	18788	9410	2835	20323	238	143	14896	28833	0	0	329
Total reductions in stock	12	15865	32098	24258	1291	27915	21994	1654	244	56901	8000	0	0	56
Closing stock (2014)	42852	566576	1002453	795089	84033	3222884	521912	137137	40734	1563808	417973	128749	222461	5905

<https://biblioteca.ibge.gov.br/visualizacao/livros/liv94724.pdf>

Land cover/use change matrix (Km²)

CLASSES		Artificial Surfaces	Cropland	Managed Pasture	Cropland and Remaining Forest Mosaics	Silviculture	Forest Tree Cover	Forest and Farming Activities Mosaics	Savannah, Shrubland, Grassland	Wetlands	Nature Pasture	Cropland and Remaining Savannah/Shrub/Grassland Mosaics	Inland Water Bodies	Coastal Water Bodies	Barren Land
Additions to stock	Artificial Surfaces	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Cropland	187	0	4605	4893	1028	0	1255	0	2	0	3835	0	0	0
	Managed Pasture	463	17441	0	252	2216	0	788	0	0	10911	22	0	0	0
	Cropland and Remaining Forest Mosaics	194	4380	13958	0	1519	656	3551	0	0	0	0	0	0	0
	Silviculture	7	361	129	482	0	0	191	0	0	35	86	0	0	0
	Forest Tree Cover	82	1549	6665	4882	270	0	14464	0	0	0	0	0	0	0
	Forest and Farming Activities Mosaics	178	1786	8808	8232	803	2174	0	0	0	0	0	0	0	2
	Forest and Farming Activities Mosaics	1	221	84	0	8	0	0	0	139	857	24	0	0	320
	Wetlands	0	1	10	0	0	0	0	228	0	5	0	0	0	0
	Nature Pasture	253	13712	15263	0	2707	0	0	3	0	0	24852	0	0	2
	Cropland and Remaining Savannah/Shrub/Grassland Mosaics	82	2818	1246	0	813	0	0	0	0	3019	0	0	0	4
	Inland Water Bodies	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Coastal Water Bodies	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barren Land	8	0	0	0	46	0	0	0	0	0	2	0	0	0
	Revaluations	0	1	0	47	0	5	74	7	2	69	12	0	0	0
	Total additions to stock	1459	42270	50768	18788	9410	2835	20323	238	143	14896	28833	0	0	329

Forest Account

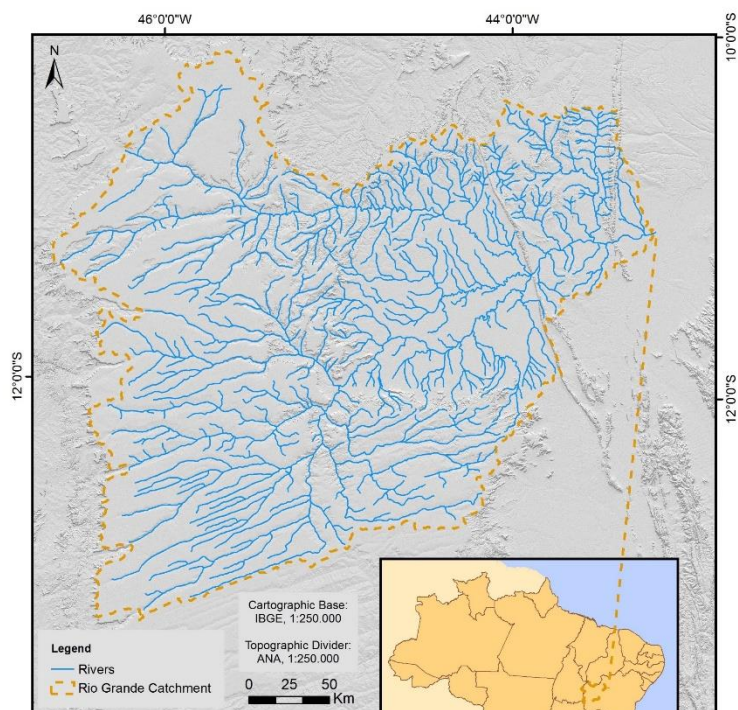


<https://www.ibge.gov.br/geociencias-novoportal/informacoes-ambientais/cobertura-e-uso-da-terra/15834-mudancas-na-cobertura-e-uso-da-terra.html>

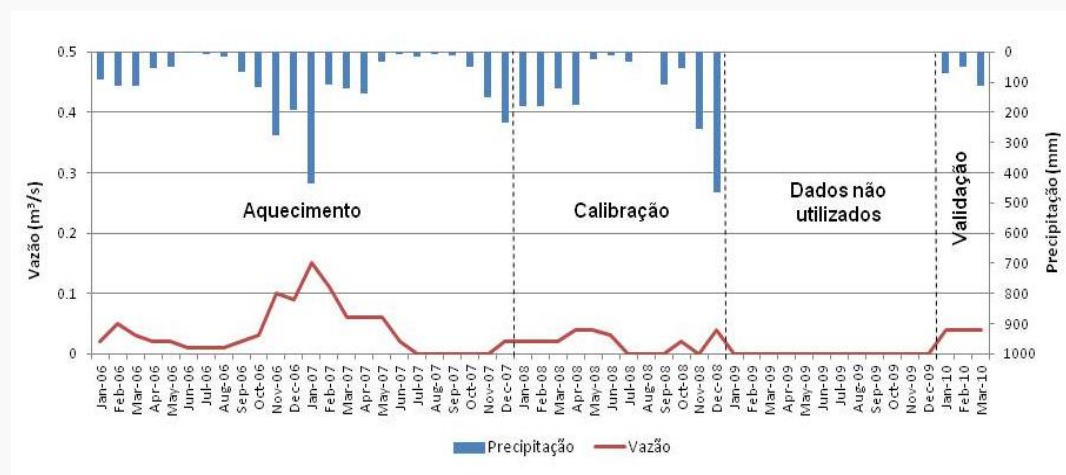
Asset Account of Forestry and Other Forest Coverages (hectares)				
	Forested Forest Area	Wooded Forest Area	Shrub Forest Area	Siviculture
Stock				
Additions				
Forestation				
Classification Change				
Total Stock Additions				
Stock				
Reductions				
Deforestation				
Classification Change				
Total Stock Reductions				
Final Stock of Timber Resources				

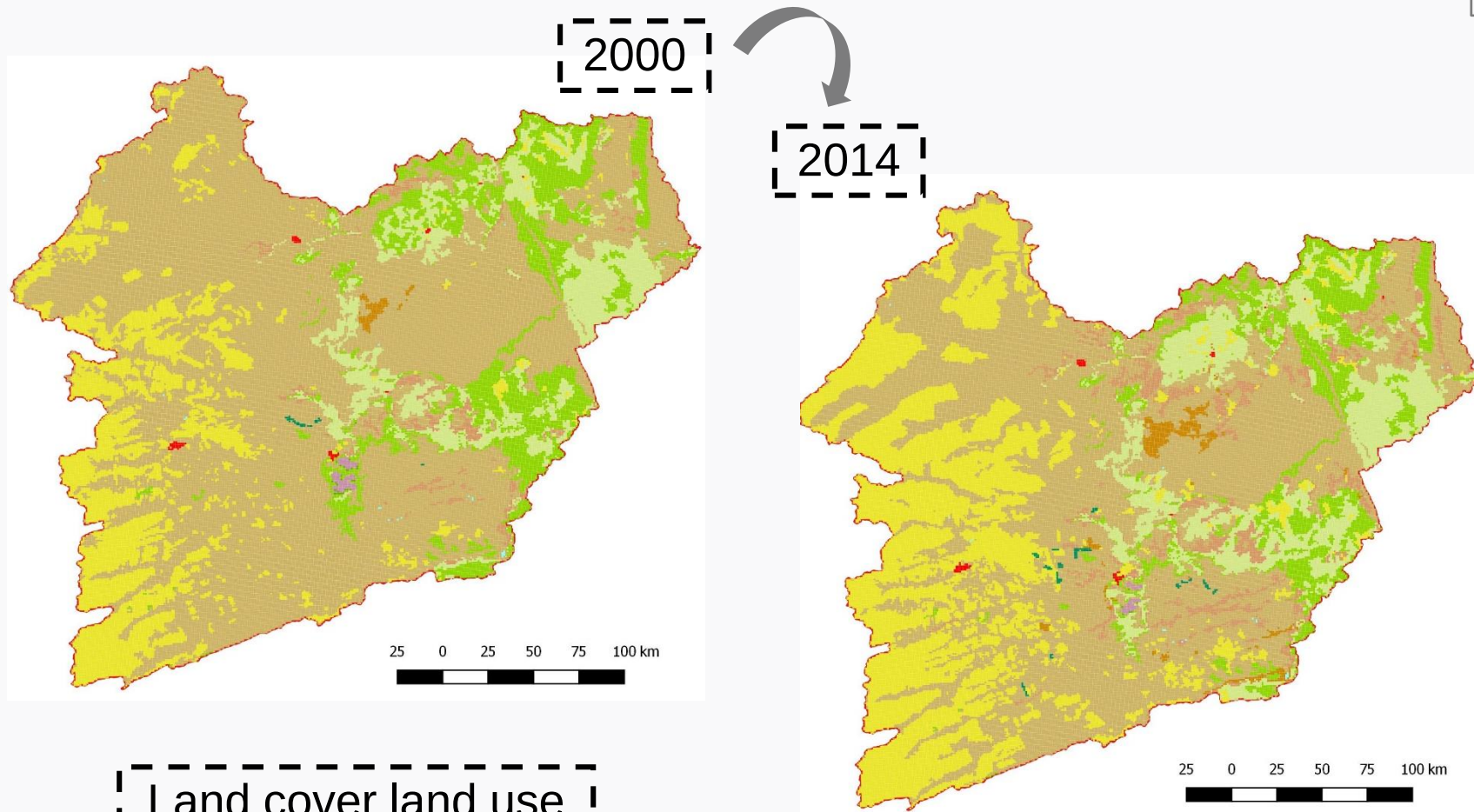
Experimental area for pilot project in capital natural accounting

FUTURE
PLANS

Ecosystem
Accounts


simulate hydrological and erosional processes at the basin scale



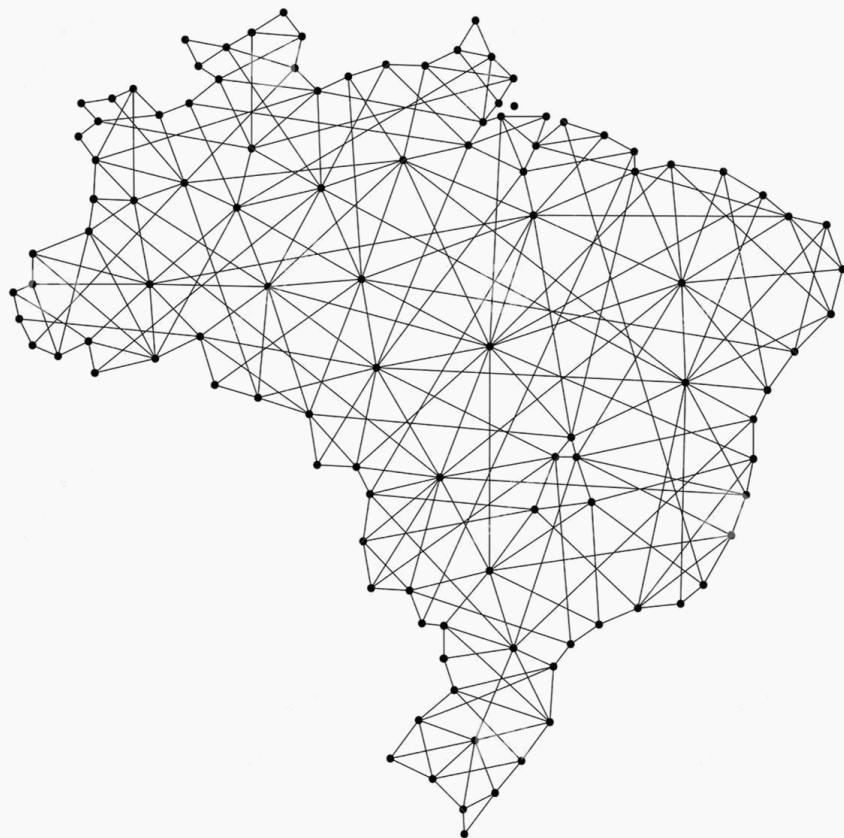


Land cover land use
in Rio Grande Basin

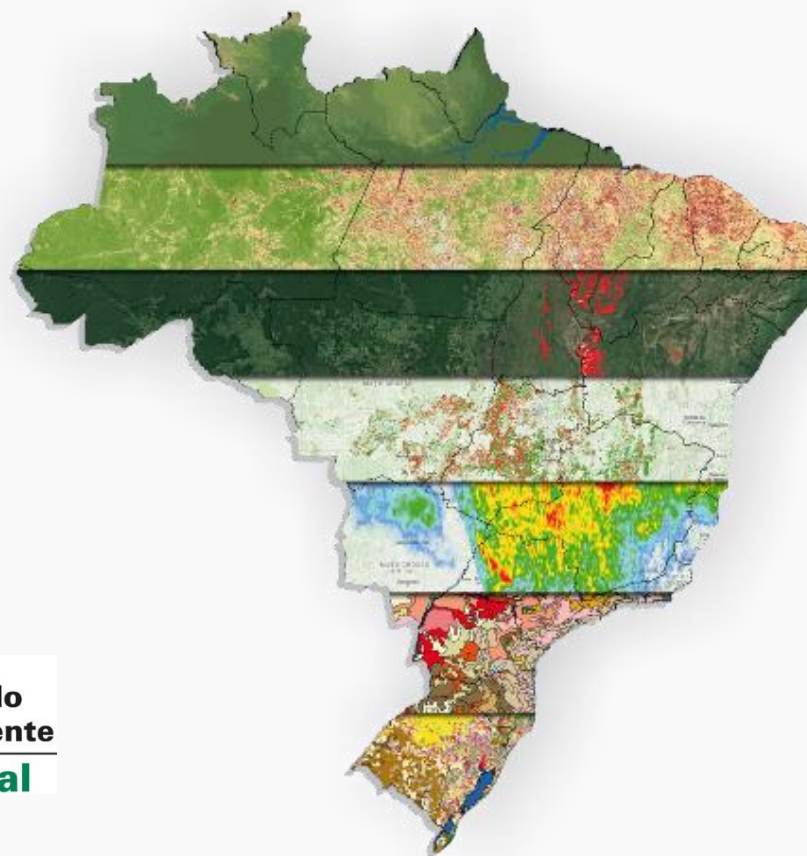
(80.000 km²)

CLASS LEGEND

- Artificial Area
- Cropland
- Managed Pasture
- Cropland and Remaining Forest Mosaics
- Silviculture
- Forest Tree Cover
- Forest and Farming Activities Mosaics
- Savannah, Shrubland, Grassland
- Natural Pasture
- Cropland and Remaining Savannah/Shrub/Grassland Mosaics
- Inland Water Bodies
- BASIN LIMITS

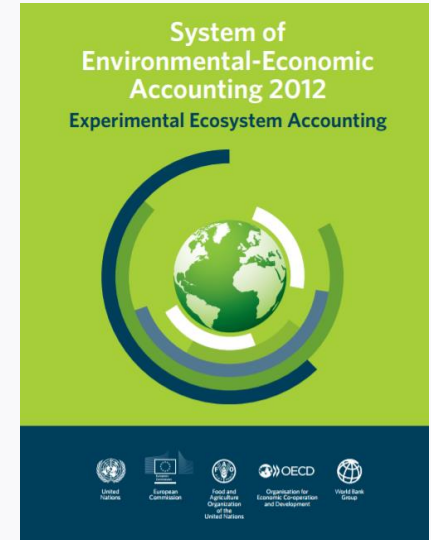


Integration: data from
other institutions in Brazil



Research questions

1. How changes in land cover/land use affect hydrological processes and soil loss rates in the study area?
2. How observed soil loss rates will impact the agricultural production of the study area?
3. How the results obtained above can be incorporated into the management of the water resources of the São Francisco basin?



Thank you!

Obrigada :)

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