

# **Land Use Change Assets**

**Geociencias Directorate**

Monitoring land cover/land use changes for all the Brazilian territory, in regular intervals, through a systematic mapping, using a **Territorial Grid for Statistical Purposes**, in which spatial and statistics data will be integrated.

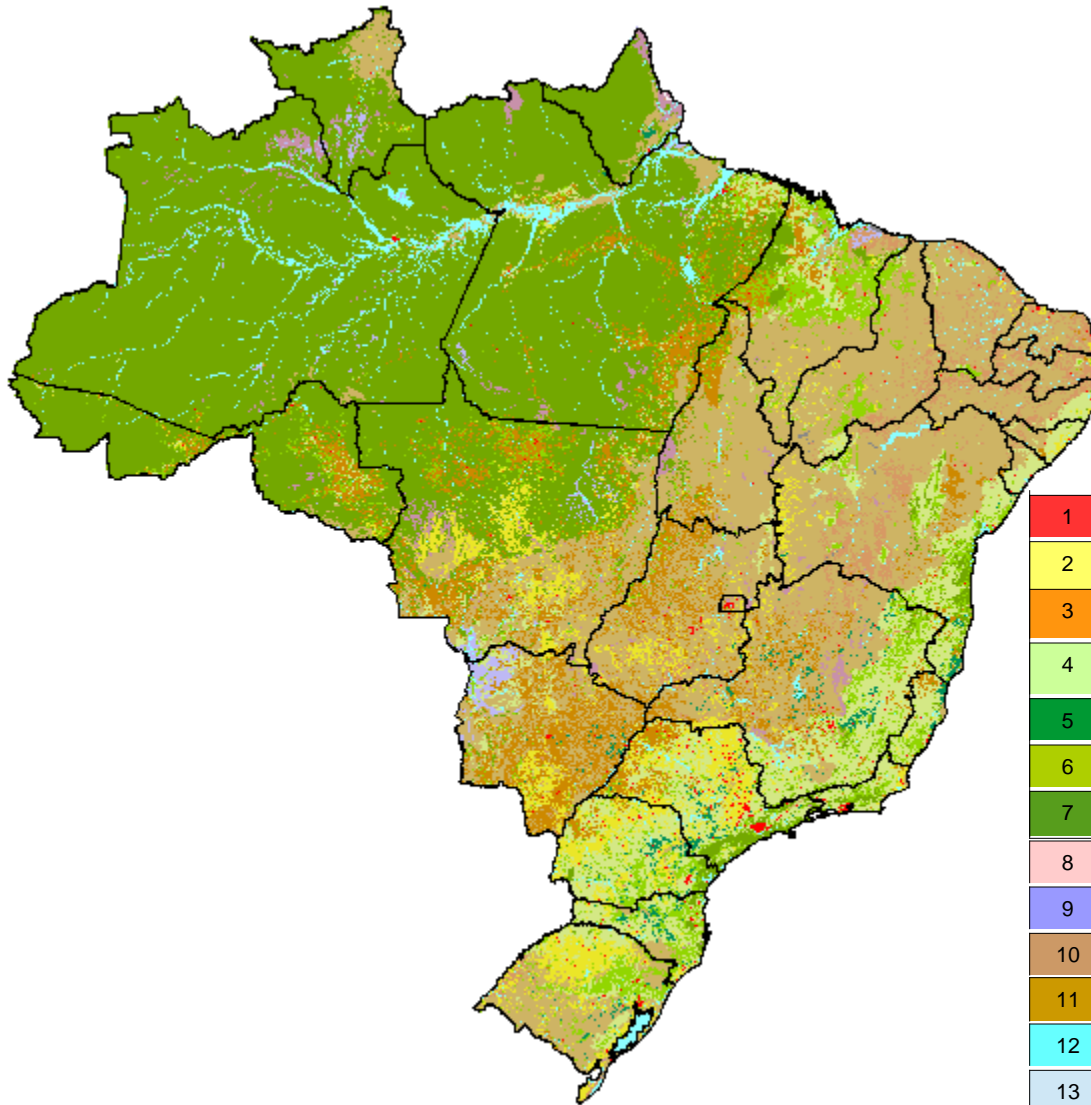
WHAT HAS  
CHANGED?

HOW IT HAS  
CHANGED ?

# Classes of Land Use and Cover

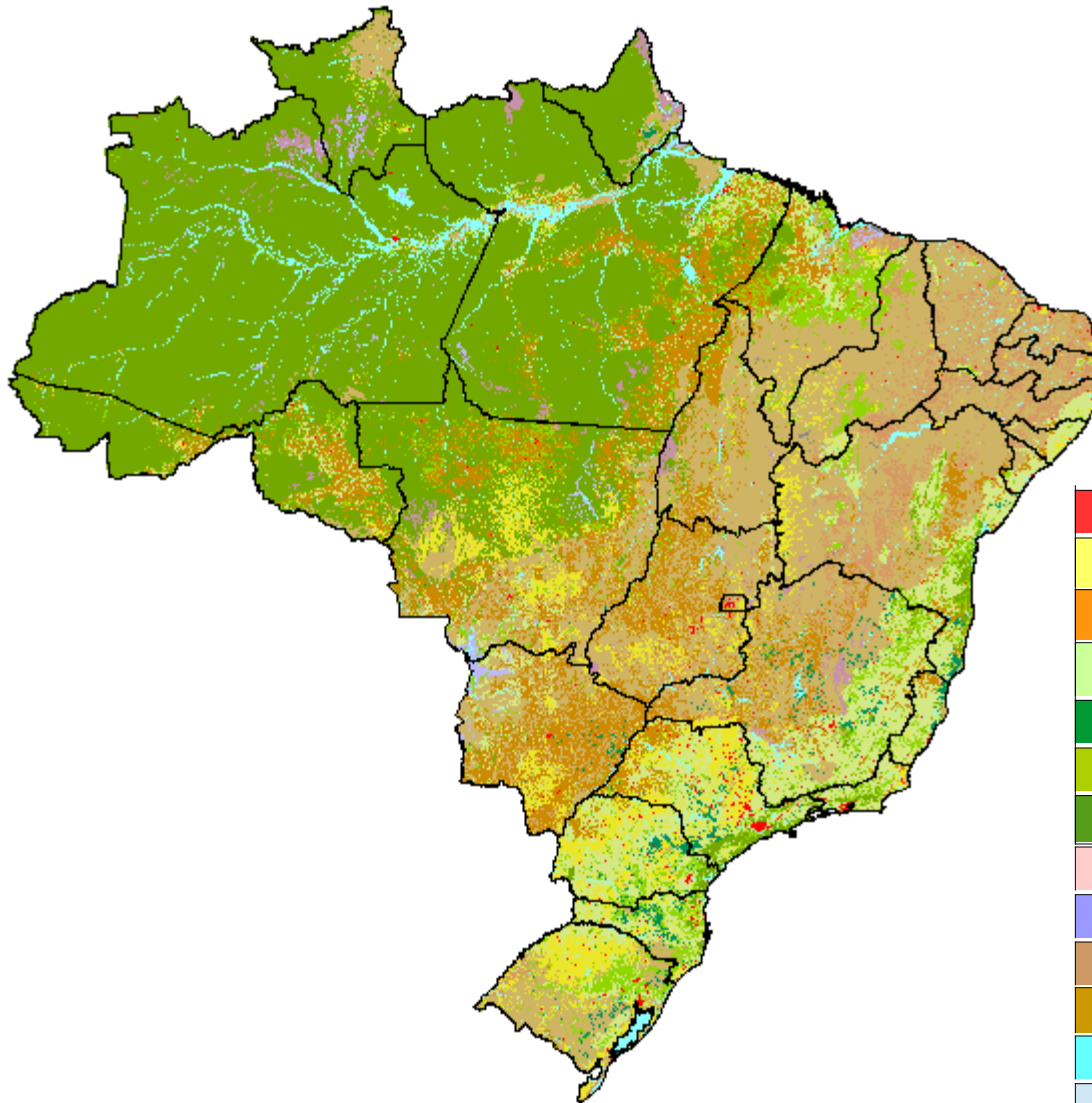
1. Artificial surfaces	8. Shrub-covered areas
2. Croplands (woody+herbaceous)	9. Shrub-covered areas permanently or regularly flooded
3. Artificial pasture (seeded grassland)	10. Natural pastures
4. Croplands with remaining forests	11. Mosaics of predominantly natural shublands and farming (crops or cattle)
5. Forestry	12. Inland water bodies
6. Forests	13. Coastal water bodies
7. Mosaics of predominantly forested areas and multiple or layered crops	14. Terrestrial barren land

# Land Use and Land Cover - 2000



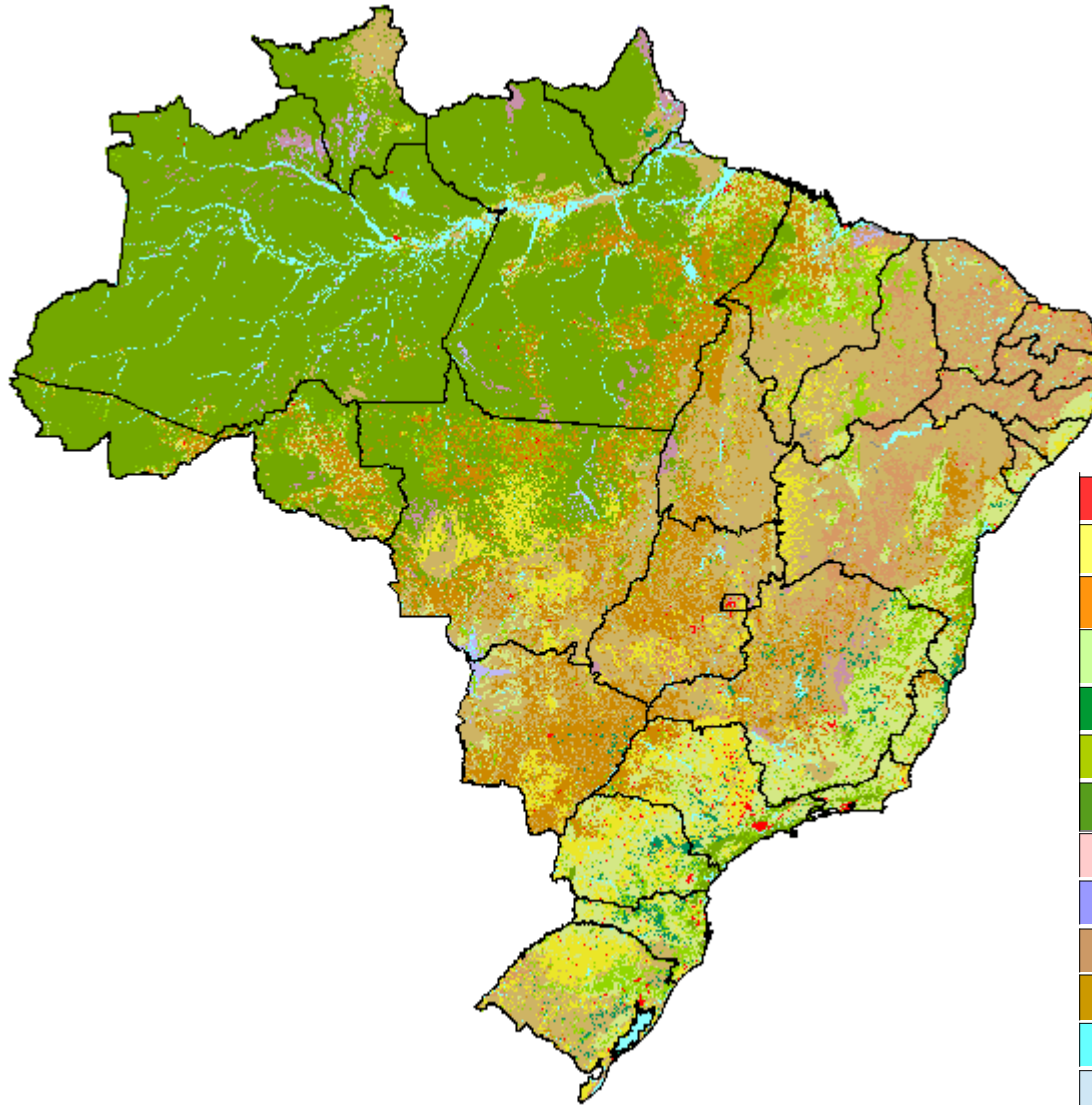
1	Artificial surfaces
2	Croplands (woody+herbaceous)
3	Artificial pasture (seeded grassland)
4	Croplands with remaining forests
5	Forestry
6	Forests
7	Mosaics of predominantly forested areas and multiple or layered crops
8	Shrub-covered areas
9	Shrub-covered areas permanently or regularly flooded
10	Natural pastures
11	Artificial surfaces
12	Inland water bodies
13	Coastal water bodies
14	Terrestrial barren land

# Land Use and Land Cover - 2010



1	Artificial surfaces
2	Croplands (woody+herbaceous)
3	Artificial pasture (seeded grassland)
4	Croplands with remaining forests
5	Forestry
6	Forests
7	Mosaics of predominantly forested areas and multiple or layered crops
8	Shrub-covered areas
9	Shrub-covered areas permanently or regularly flooded
10	Natural pastures
11	Artificial surfaces
12	Inland water bodies
13	Coastal water bodies
14	Terrestrial barren land

# Land Use and Land Cover - 2012



1	Artificial surfaces
2	Croplands (woody+herbaceous)
3	Artificial pasture (seeded grassland)
4	Croplands with remaining forests
5	Forestry
6	Forests
7	Mosaics of predominantly forested areas and multiple or layered crops
8	Shrub-covered areas
9	Shrub-covered areas permanently or regularly flooded
10	Natural pastures
11	Artificial surfaces
12	Inland water bodies
13	Coastal water bodies
14	Terrestrial barren land

# Land Use and Land Cover Stock

## Exemplo desagregado

CLASSES ADIÇÕES/REDUÇÕES ESTOQUES	Área artificial	Área agrícola	Pastagem Plantada	Mosaico de área agrícola com remanescentes florestais	Silvicultura	Vegetação florestal	Mosaicos de vegetação florestal e atividade agrícola	Vegetação campestre	Vegetação campestre alagada	Pastagem natural	Mosaicos de vegetação campestre e atividade agrícola	Área descoberta
Estoque de abertura (2000)	37.199	398.776	619.630	741.942	55.161	3.513.948	460.795	102.350	57.598	2.073.970	173.918	5.572
Total de adições do estoque	2.955	78.489	249.630	114.070	20.419	383	95.877	236	310	30.755	57.417	121
Total de redução do estoque	787	1.756	9.023	64.520	9.184	254.608	95.363	10.669	13.453	189.501	1.745	53
Estoque final/inicial (2010)	39.366	475.509	860.237	791.492	66.396	3.259.721	461.309	91.917	44.456	1.915.225	229.589	5.640
Total de adições do estoque	1.305	41.701	97.709	41.767	9.987	204	33.075	108	150	6.756	78.957	68
Total de redução do estoque	311	992	2.076	31.206	6.922	59.434	47.198	2.552	2.772	156.426	1.805	102
Estoque final (2012)	40.360	516.217	955.870	802.054	69.461	3.200.491	447.186	89.474	41.834	1.765.555	306.742	5.606

2000 / 2010 / 2012 - km<sup>2</sup>

# Surface Area

## Land Use Change Classes (Km<sup>2</sup>)

CLASSE	2000	2010	2012
Artificial area	37.199	39.366	40.360
Agriculture area	398.776	475.509	516.217
Planted pasture	619.630	860.237	955.870
Mosaic of agriculture and remaining forest	741.942	791.492	802.054
Forestry	55.161	66.396	69.461
Forest land	3.513.948	3.259.721	3.200.491
Mosaic of forest and agriculture	460.795	461.309	447.186
Shrub-covered area	102.350	91.917	89.474
Shrub-covered area permanently or regularly flooded	57.598	44.456	41.834
Natural pasture	2.073.970	1.915.225	1.765.555
Mosaic of shrub-covered area and agriculture	173.918	229.589	306.742
Barren land	5.572	5.640	5.606



# Physical Accounts

	Área artificial	Área agrícola	Pastagem Plantada	Mosaico de área agrícola com remanescentes florestais	Silvicultura	Vegetação florestal	Mosaicos de vegetação florestal e atividade agrícola	Vegetação campestre	Vegetação campestre alagada	Pastagem natural	Mosaicos de vegetação campestre e atividade agrícola	Área descoberta	
<b>Estoque final/inicial (2010)</b>	<b>39.366</b>	<b>475.509</b>	<b>860.237</b>	<b>791.492</b>	<b>66.396</b>	<b>3.259.721</b>	<b>461.309</b>	<b>91.917</b>	<b>44.456</b>	<b>1.915.225</b>	<b>229.589</b>	<b>5.640</b>	
1. Adições ao estoque	Área artificial	0	82	55	100	6	0	32	0	0	4	30	1
	Área agrícola	12	0	242	227	71	0	40	0	1	123	277	0
	Pastagem Plantada	7	189	0	562	67	6	472	0	0	679	94	0
	Mosaico de área agrícola com remanescentes florestais	351	8.259	13.231	0	2.182	40	6.639	1	1	481	22	0
	Silvicultura	24	1.270	958	3.272	0	2	1.238	0	0	76	82	0
	Vegetação florestal	307	3.452	18.483	12.268	478	0	24.300	9	18	66	23	25
	Mosaicos de vegetação florestal e atividade agrícola	162	4.190	13.646	25.055	3.787	152	0	0	50	122	26	6
	Vegetação campestre	3	40	99	3	3	0	1	0	1	2.195	206	1
	Vegetação campestre alagada	3	26	42	35	0	3	39	9	0	2.561	53	0
	Pastagem natural	397	23.590	50.242	232	3.342	1	302	88	77	0	78.123	32
	Mosaicos de vegetação campestre e atividade agrícola	14	590	709	12	26	0	5	0	2	444	0	2
	Área descoberta	26	13	1	1	27	0	7	0	0	5	22	0
<b>Total de adições do estoque</b>	<b>1.305</b>	<b>41.701</b>	<b>97.709</b>	<b>41.767</b>	<b>9.987</b>	<b>204</b>	<b>33.075</b>	<b>108</b>	<b>150</b>	<b>6.756</b>	<b>78.957</b>	<b>68</b>	
2. Redução do estoque	Área artificial	0	12	7	351	24	307	162	3	3	397	14	26
	Área agrícola	82	0	189	8.259	1.270	3.452	4.190	40	26	23.590	590	13
	Pastagem Plantada	55	242	0	13.231	958	18.483	13.646	99	42	50.242	709	1
	Mosaico de área agrícola com remanescentes florestais	100	227	562	0	3.272	12.268	25.055	3	35	232	12	1
	Silvicultura	6	71	67	2.182	0	478	3.787	3	0	3.342	26	27
	Vegetação florestal	0	0	6	40	2	0	152	0	3	1	0	0
	Mosaicos de vegetação florestal e atividade agrícola	32	40	472	6.639	1.238	24.306	0	1	39	302	5	7
	Vegetação campestre	0	0	0	1	0	9	0	0	9	88	0	0
	Vegetação campestre alagada	0	1	0	1	0	18	50	1	0	77	2	0
	Pastagem natural	4	123	679	481	76	66	122	2.195	2.561	0	444	5
	Mosaicos de vegetação campestre e atividade agrícola	30	277	94	22	82	23	26	206	53	78.123	0	22
	Área descoberta	1	0	0	0	0	25	6	1	0	32	2	0
<b>Total de redução do estoque</b>	<b>311</b>	<b>992</b>	<b>2.076</b>	<b>31.206</b>	<b>6.922</b>	<b>59.434</b>	<b>47.198</b>	<b>2.552</b>	<b>2.772</b>	<b>156.426</b>	<b>1.805</b>	<b>102</b>	
<b>Estoque final (2012)</b>	<b>40.360</b>	<b>516.217</b>	<b>955.870</b>	<b>802.054</b>	<b>69.461</b>	<b>3.200.491</b>	<b>447.186</b>	<b>89.474</b>	<b>41.834</b>	<b>1.765.555</b>	<b>306.742</b>	<b>5.606</b>	

## Considerations about the Main Changes Processes

**Period of 2000-2010:** The main change process was agricultural expansion, over forest areas. Another important process: the increase in planted pastures over areas of natural pasture.

**Period of 2010-2012:** The expansion of agricultural areas was also the main change process. However, this expansion occurred both in forest areas and in natural pasture. The increase in planted pastures was also significant, and happened especially on natural pastures.

In proportional terms, the resulting loss of vegetation these expansions took place mainly in grasslands (cerrado and caatinga).