

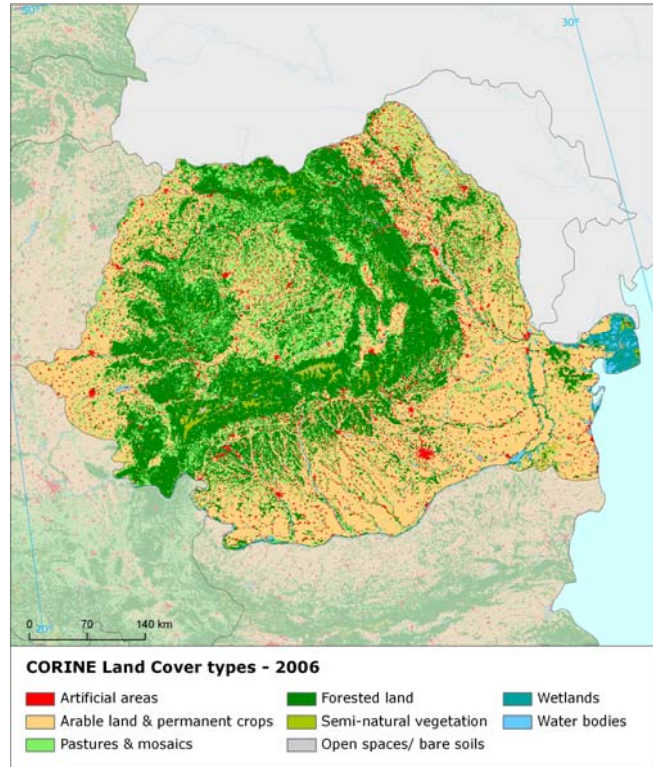
Romania

Land cover 2006

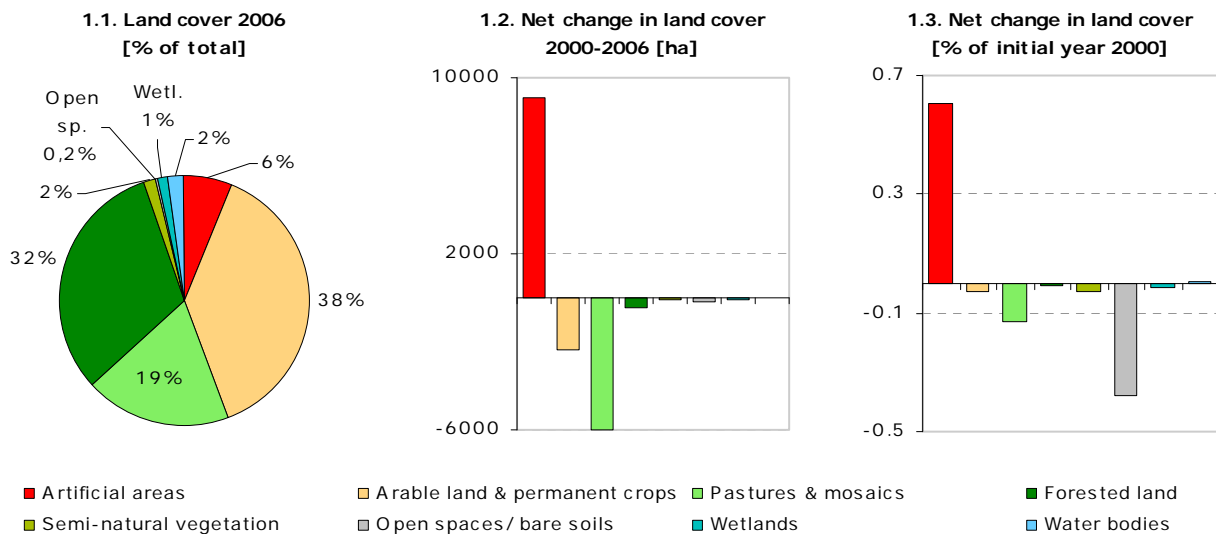
Overview of land cover & change 2000-2006

During 2000-2006, the situation in Romanian landscape has been significantly stabilized, compared to the previous period 1990-2000. The overall intensity of land cover changes in Romania is still relatively low, compared to the other European countries, but this stabilisation is mainly caused by significant decrease of intensity of agricultural and forest changes, which were quite intensive during the previous period. In contrast, artificial land take is the only main land cover change which occurs with increased intensity.

Concerning the change drivers, development of Romanian landscape has been driven mostly by artificial land take and by agriculture internal changes, followed by forest creation and management to a lesser extent. This development is different compared to the period 1990-2000, when agricultural and forest internal conversions were the most significant flows of land cover change in Romania.



Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100,000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details. Number of years between CLC2000-CLC2006 data for Romania: 6



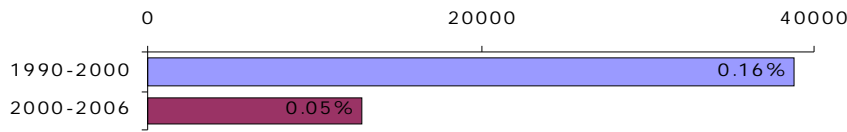
Summary balance table 2000-2006

	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces/ bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2000	15026	90487	45294	76207	3929	371	3562	4563	239440
Consumption of initial LC	3	86	81	597	1	2	1	0	771
Formation of new LC	94	62	22	593	0	0	0	0	771
Net Formation of LC	91	-24	-60	-5	-1	-1	-1	0	0
<i>Net formation as % of initial year</i>	<i>0.6</i>	<i>0.0</i>	<i>-0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>-0.4</i>	<i>0.0</i>	<i>0.0</i>	
Total turnover of LC	98	147	103	1190	1	2	1	0	1542
<i>Total turnover as % of initial year</i>	<i>0.7</i>	<i>0.2</i>	<i>0.2</i>	<i>1.6</i>	<i>0.0</i>	<i>0.4</i>	<i>0.0</i>	<i>0.0</i>	<i>0.6</i>
Land cover 2006	15117	90463	45235	76203	3928	369	3561	4564	239440

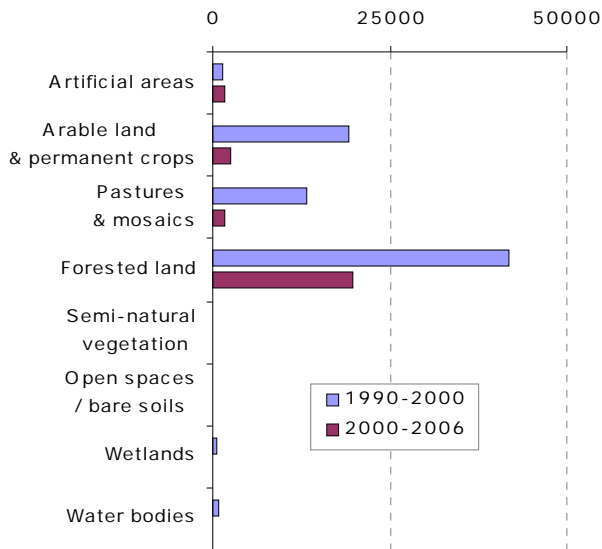
Romania

Land cover trends comparison 1990-2000 vs. 2000-2006

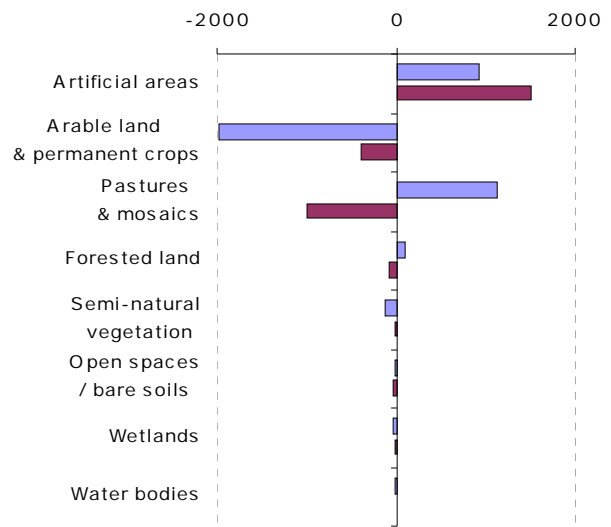
2.4. Annual land cover change
[ha/year, % of total area]



2.5. Annual turnover of LC types
[ha/year]

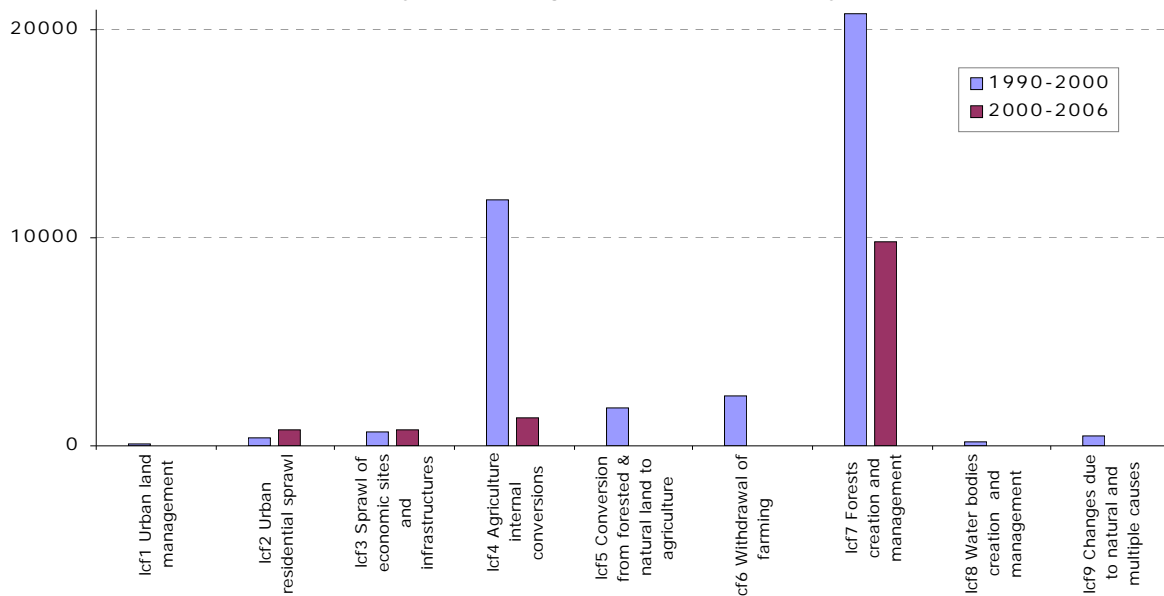


2.6. Net annual change of LC types [ha/year]



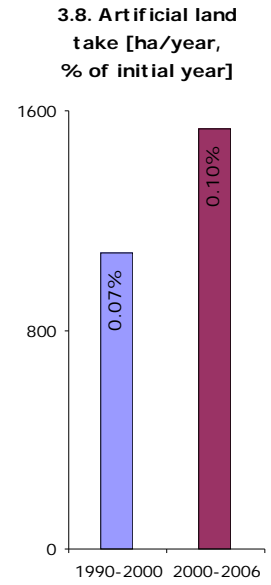
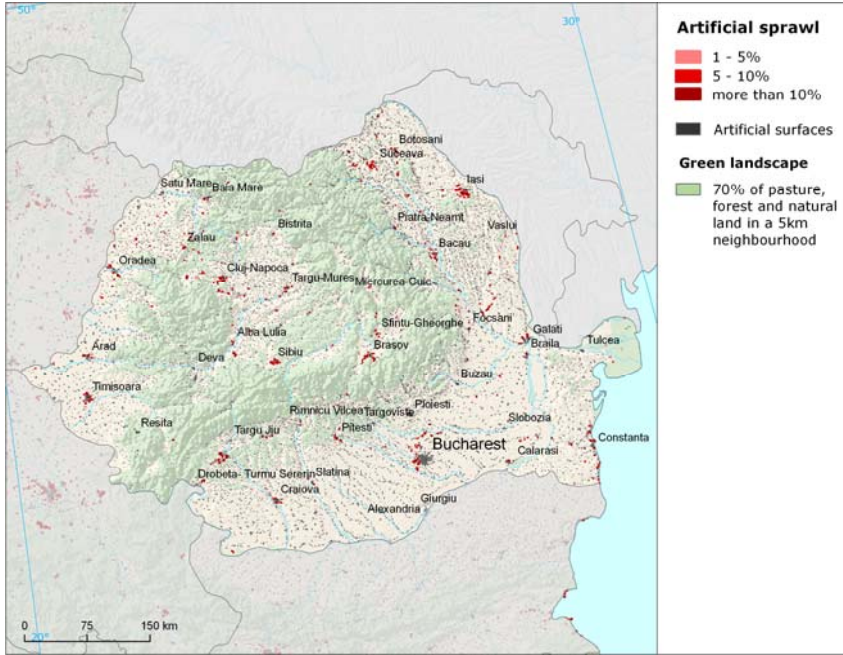
Summary trend figures		1990-2000	2000-2006
Annual land cover change [ha/year]		38790	12847
Annual land cover change as % of initial year		0.16%	0.05%
Land uptake by artificial development as mean annual change [ha/year]		1078	1534
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]		1017	1400
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]		-642	-11
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]		326	623
Forest & other woodland net formation as mean annual change [ha/year]		104	-77
Dry semi-natural land cover net formation as mean annual change [ha/year]		-126	-42
Wetlands & water bodies net formation as mean annual change [ha/year]		-49	-6

2.7. Intensity of main change drivers (LC FLOWS) [ha/year]



Romania

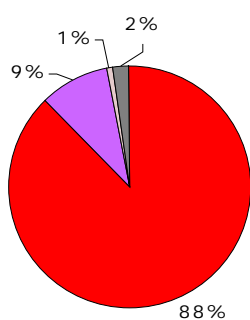
Artificial areas



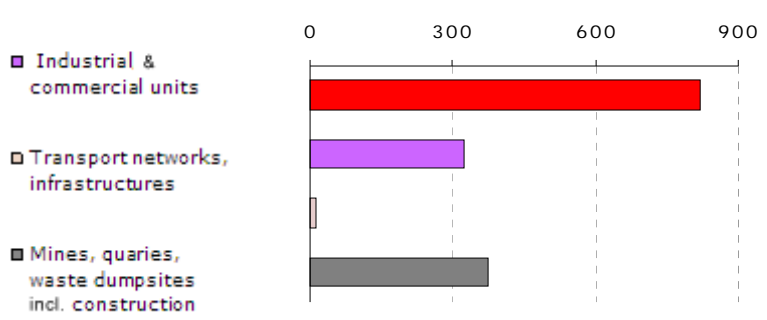
Residential sprawl accelerates

The sprawl of artificial surfaces, which is situated into surroundings of the major Romanian cities, accelerated during 2000-2006. It is caused mainly by acceleration of diffuse residential sprawl (which was doubled, compared to the previous period, and represents around 53% of all artificial sprawl) and sprawl of commercial and industrial (21%) and construction sites (11%). In contrast, the intensity of sprawl of mines and quarrying sites (13%) and recycling of developed urban land has been slowed down during 2000-2006. On the consumption side, land cover taken by artificial sprawl consists mostly of agricultural land (91%) with prevailing share of arable land (58%) and to a lesser extent of forested areas (8%). Concerning the geographical distribution of artificial land take, most of residential sprawl occurs in surroundings of the major cities in the northern part of the country (e.g. Iasi, Cluj-Napoca, Suceava) and also around the capital city Bucharest. In contrast, the sprawl of economic sites and infrastructures prevails in surroundings of major cities in southern part of Bulgaria (Timisoara, Brasov), along the Black Sea coast and also in the mining region in Rovinari located in the south-western part of the country.

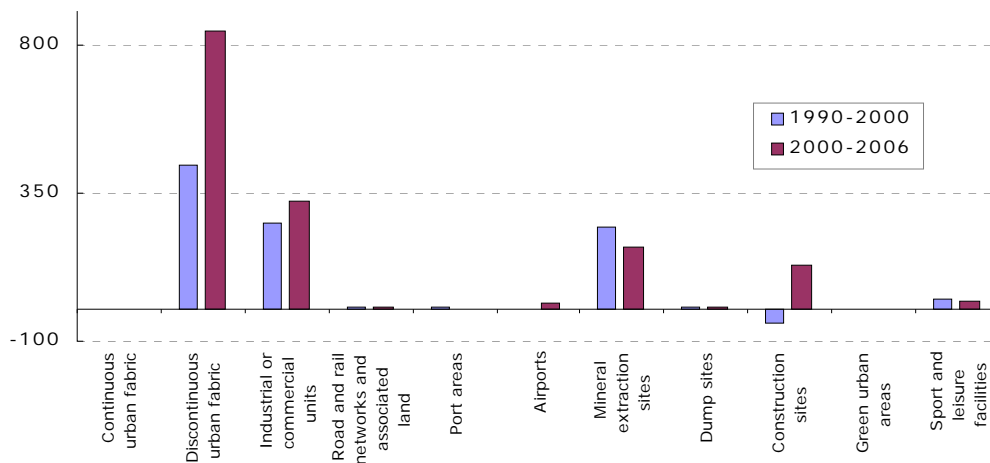
3.9. Artificial surfaces 2006 [% of total area]



3.10. Artificial land take 2000-2006 [ha/year]

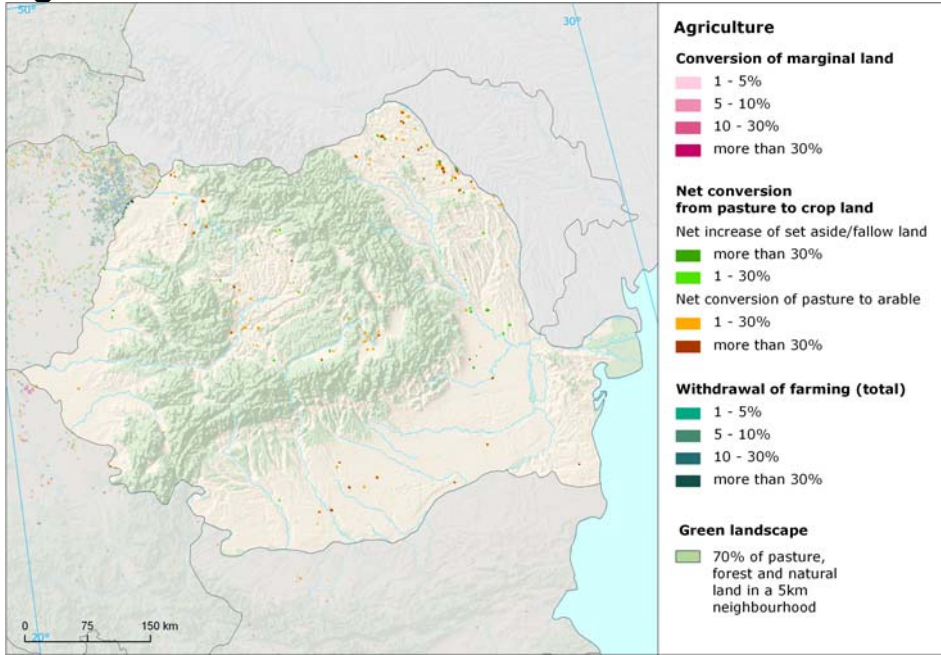


3.11. Mean annual artificial change by class [ha/year]



Romania

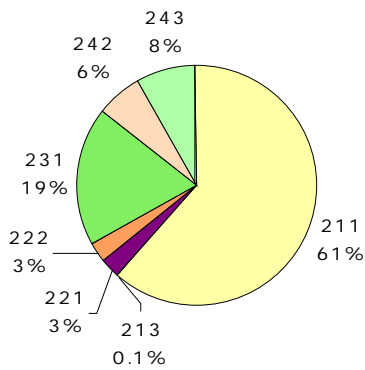
Agriculture



Consumption by land take, slow down of internal conversions

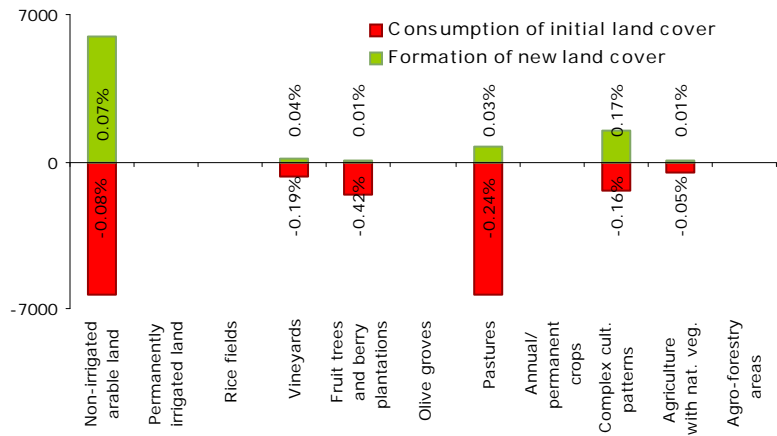
Internal agricultural conversions (represented mainly by conversions between arable and pasture land, with prevailing share of conversion from pasture to arable/crop land over extension of pasture) are one of the most significant drivers of Romanian land cover development. However, the intensity of both changes decreased rapidly, compared to the previous period 1990-2000. Also, the other major internal conversions in agriculture from the previous period (mainly internal conversions of arable land and conversions from vineyards, orchards or permanent crops to arable land) lost most of its intensity during 2000-2006. Besides these internal conversions, urban residential sprawl and sprawl of economic sites and infrastructures are the most powerful drivers of agricultural land cover change. Compared to these changes, intensity of conversions between agriculture and natural land cover, represented by withdrawal of farming mainly without woodland creation and to a lesser extent by conversion from wetlands to agriculture, is negligible.

4.12. Agricultural areas 2006 [% of total area]

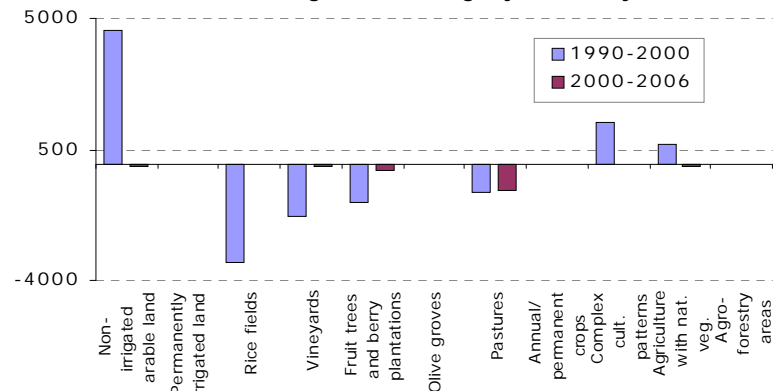


- 211 Non-irrigated arable land
- 212 Permanently irrigated land
- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns
- 243 Agriculture land with significant areas of natural vegetation
- 244 Agro-forestry areas

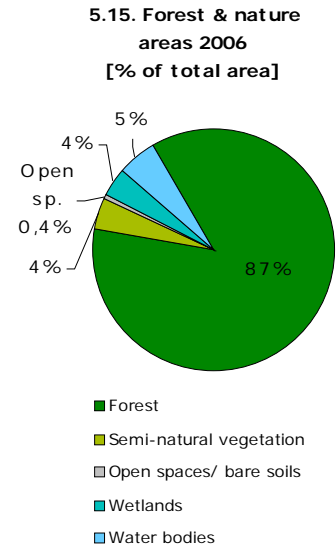
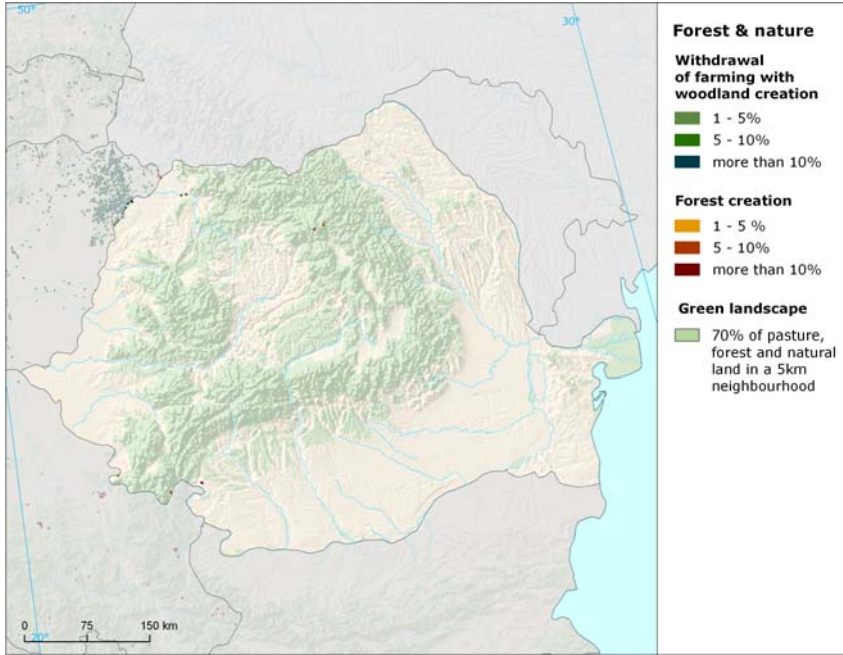
4.13. Development of agricultural areas 2000-2006 – detailed balance [ha]



4.14. Mean annual agricultural change by class [ha/year]

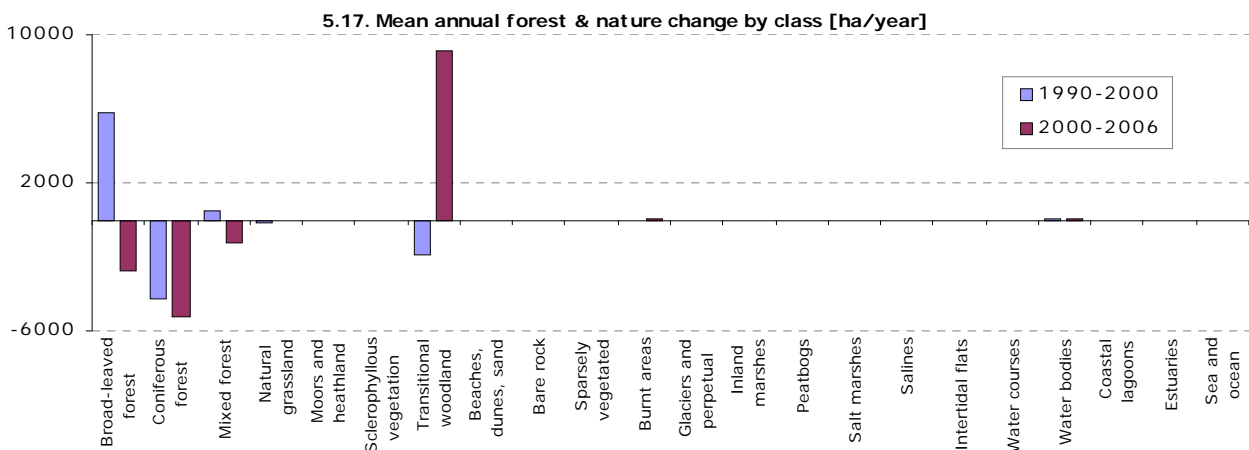
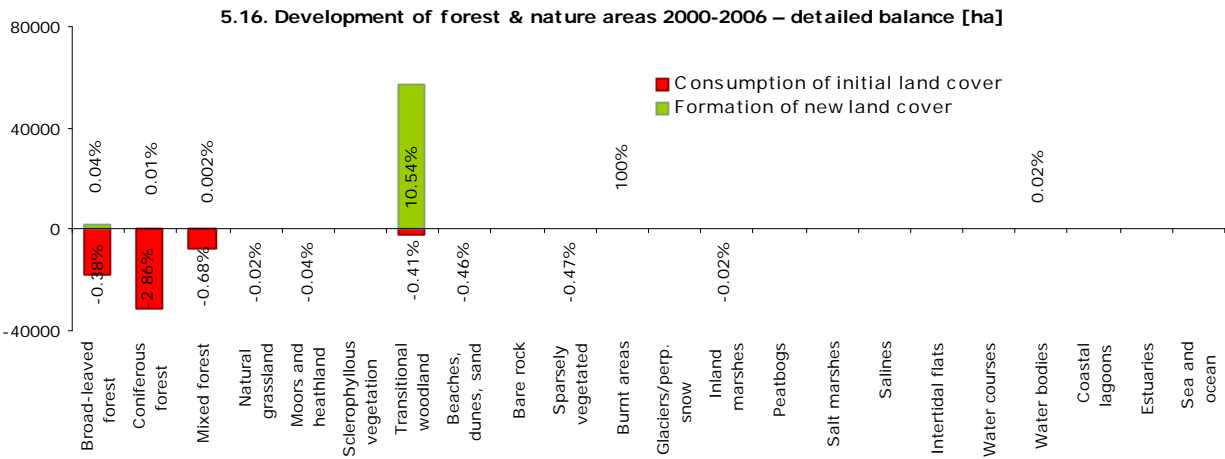


Forest & nature



Recent felling and transition, extension of mineral extraction over natural land

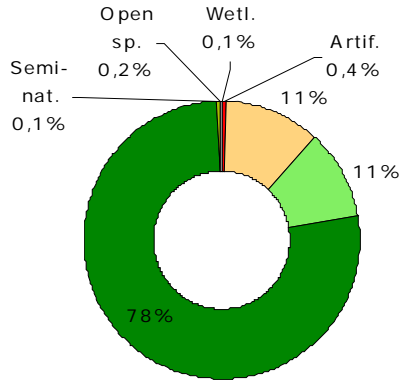
Forested land in Romania has prevailing share of broad-leaved forest. Recent felling and transition is the only significant driver of natural land cover development. In contrast, conversion from transitional woodland to forest, which was the main driver of forest changes in the previous period, almost disappeared during 2000-2006. The development of dry semi-natural surfaces (represented mainly by natural grasslands), wetlands and water bodies was also slowed down during this period.. Conversions of non-forest semi-natural land is driven only by forest creation over natural grasslands and sparsely vegetated areas and water bodies creation over agricultural surfaces. Besides these conversions, significant land cover exchange between natural surfaces and mineral extraction sites also occurs with prevailing consumption of broad-leaved forest by mineral extraction areas.



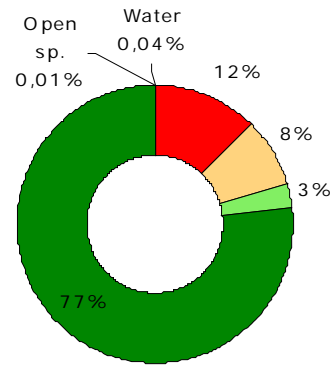
Annex: Land cover flows and trends

Land cover flows 2000-2006

6.18. Consumption of land cover 2000-2006 [% of total change area]

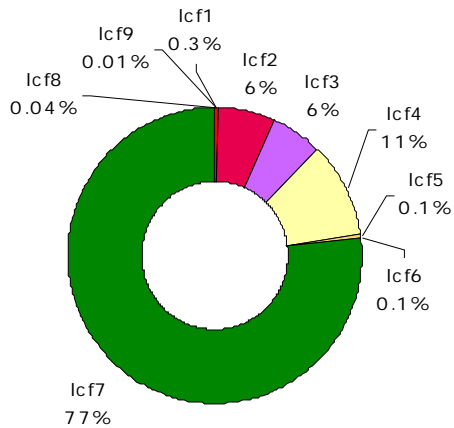


6.19. Formation of land cover 2000-2006 [% of total change area]



- Artificial areas
- Arable land & permanent crops
- Pastures & mosaics
- Forested land
- Semi-natural vegetation
- Open spaces / bare soils
- Wetlands
- Water bodies

6.20. Drivers of change (LC FLOWS) 2000-2006 [% of total change area]

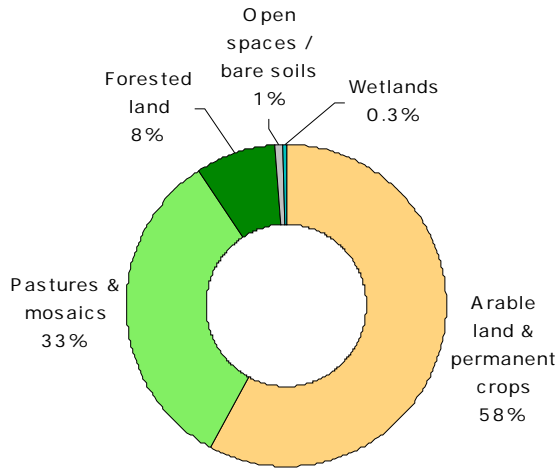


- Icf1 Urban land management
- Icf2 Urban residential sprawl
- Icf3 Sprawl of economic sites and infrastructures
- Icf4 Agriculture internal conversions
- Icf5 Conversion from forested & natural land to agriculture
- Icf6 Withdrawal of farming
- Icf7 Forests creation and management
- Icf8 Water bodies creation and management
- Icf9 Changes due to natural and multiple causes

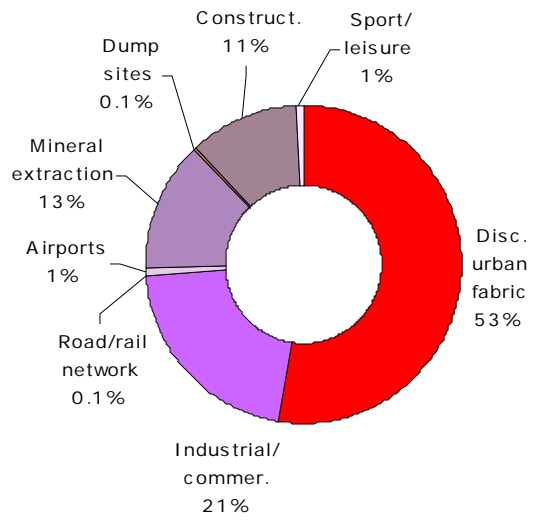
Romania

Artificial areas

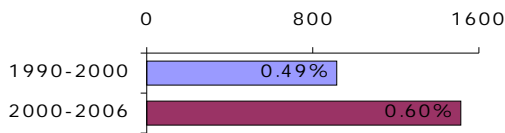
7.21. Consumption by artificial land take 2000-2006 [% of total]



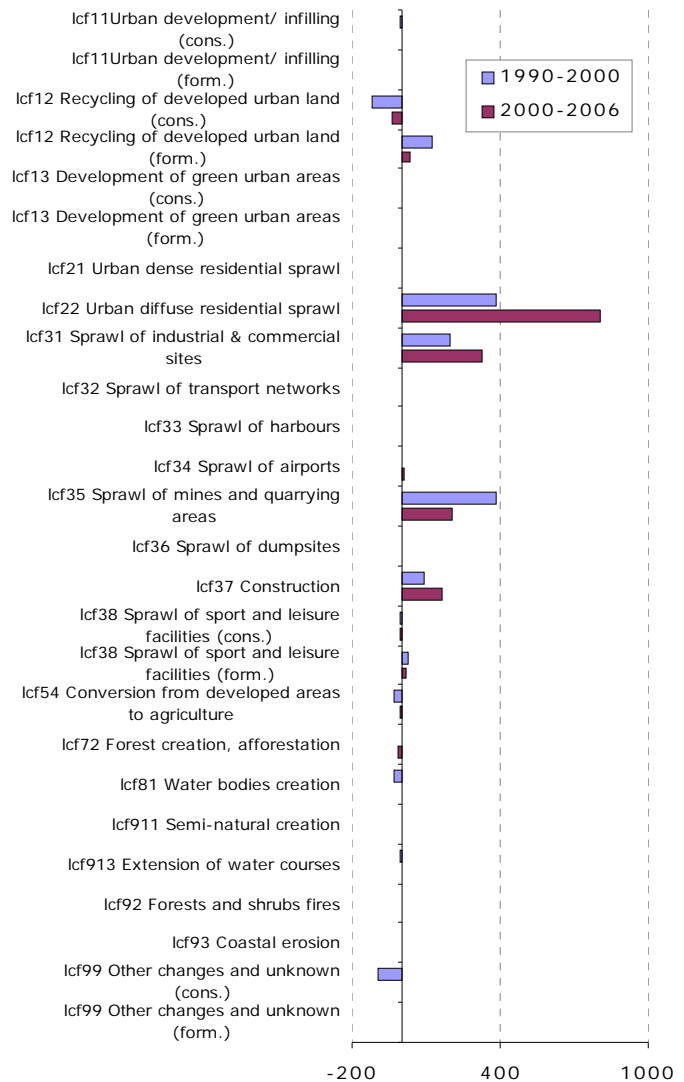
7.22. Formation by artificial land take 2000-2006 [% of total]



7.23. Net formation of artificial area [ha/year, % of initial year]



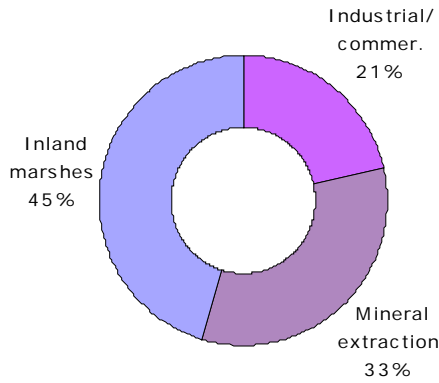
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



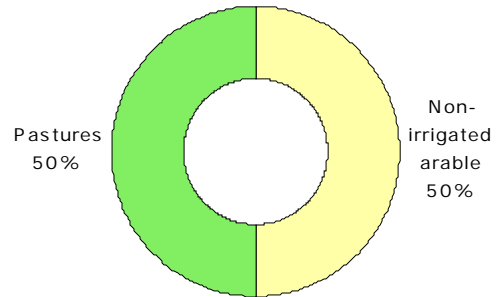
Romania

Agriculture

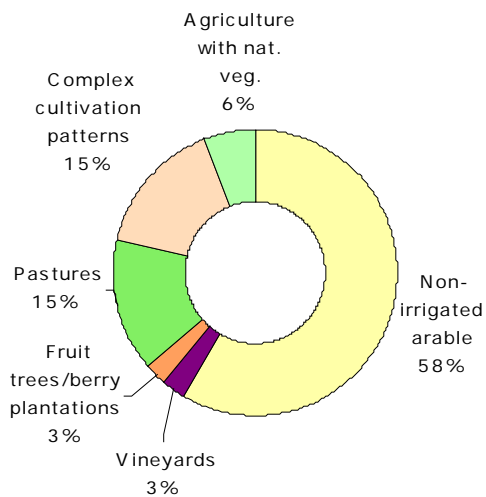
8.25. LC consumed by agriculture 2000-2006 [% of total]



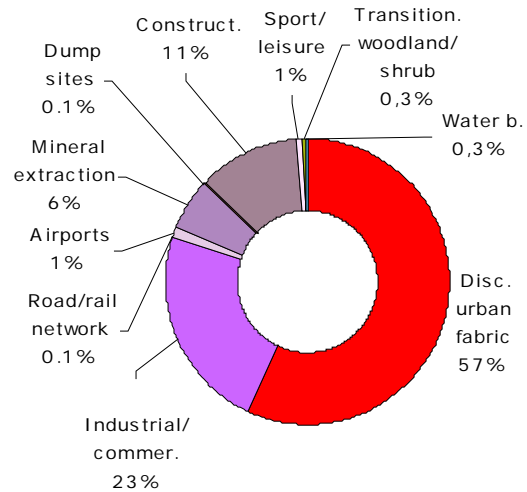
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



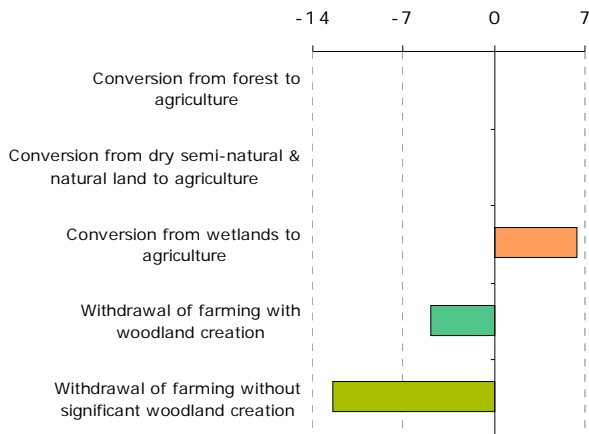
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



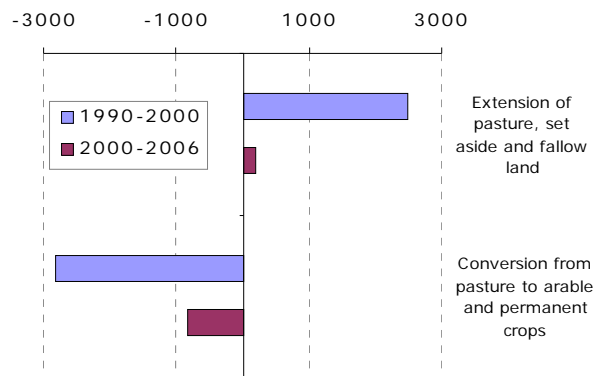
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land 2000-2006 [ha/year]

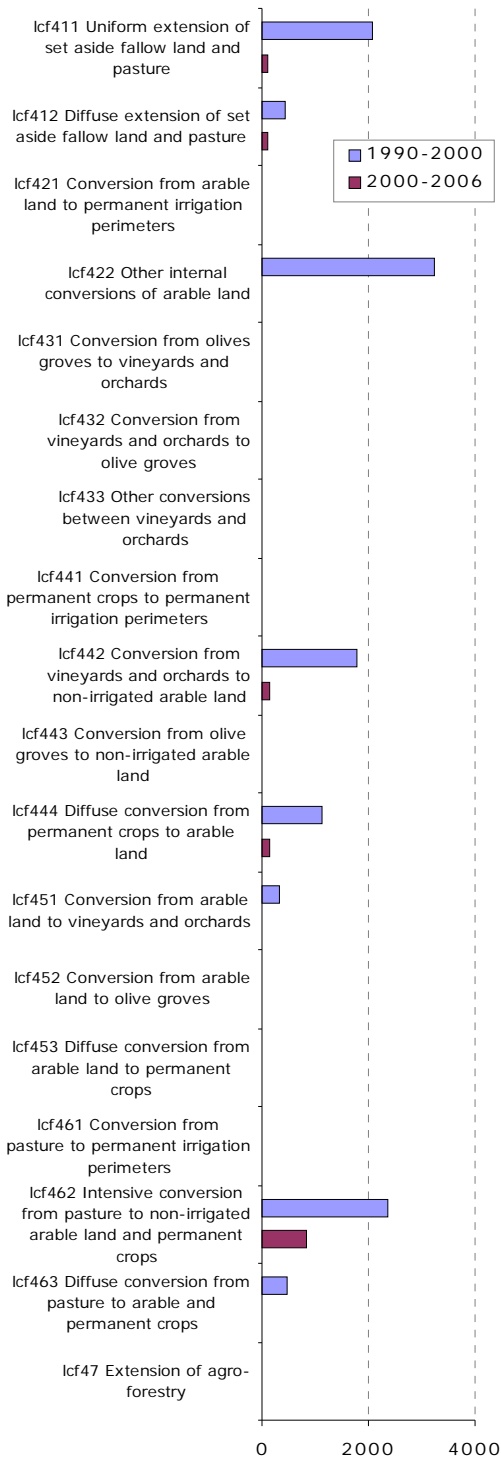


8.30. Mean annual conversion between arable land and pasture [ha/year]

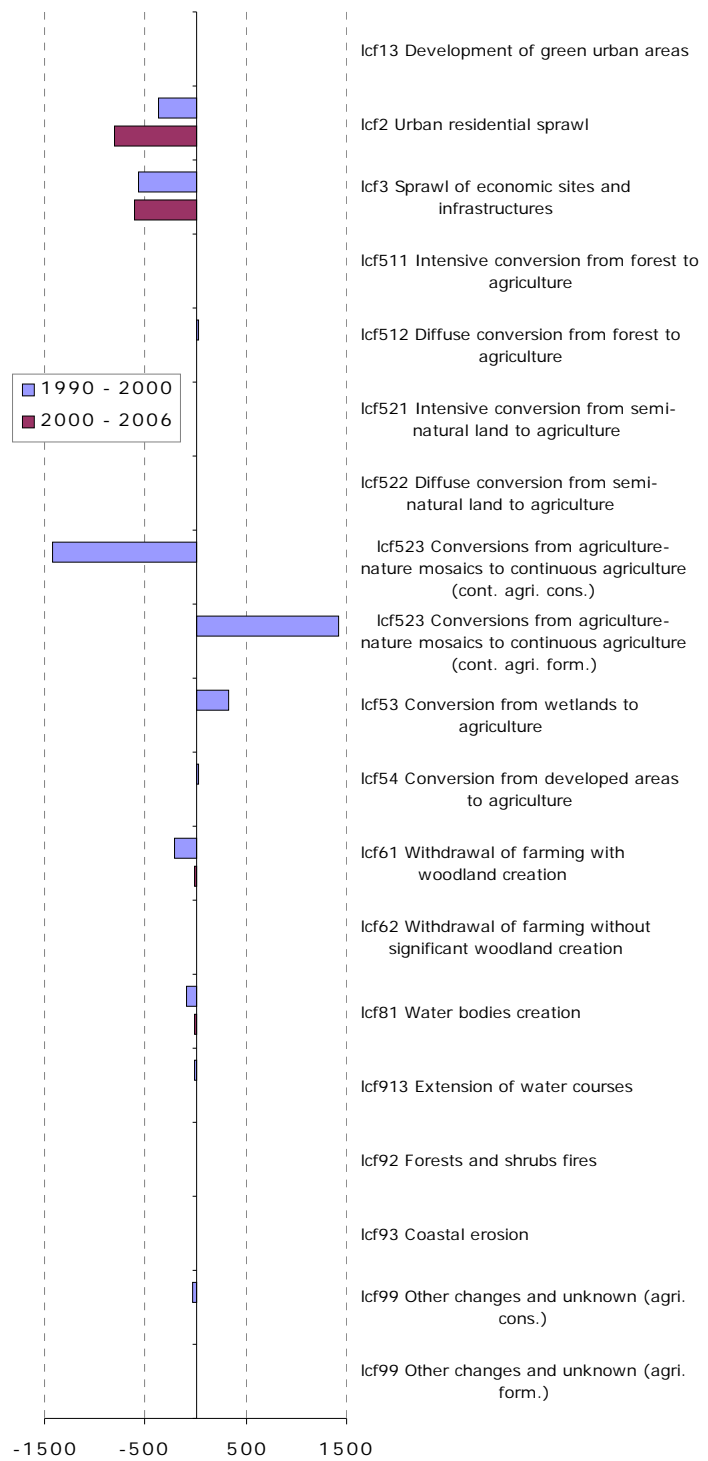


Romania

9.31. Mean annual agriculture internal conversions [ha/year]



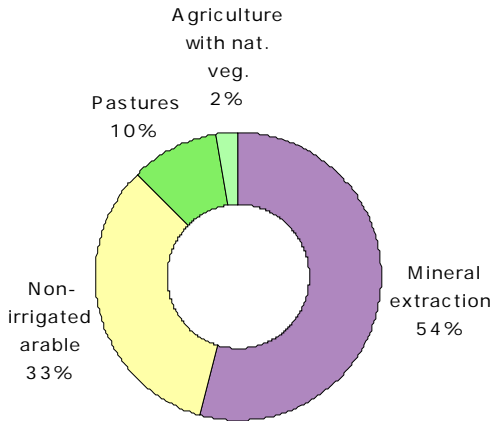
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



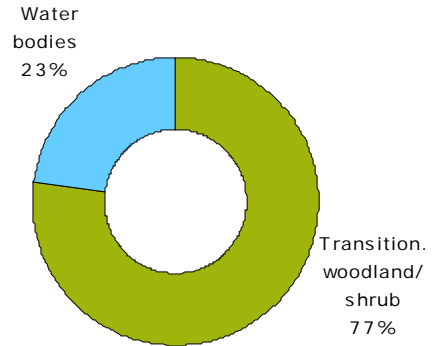
Romania

Forest & nature

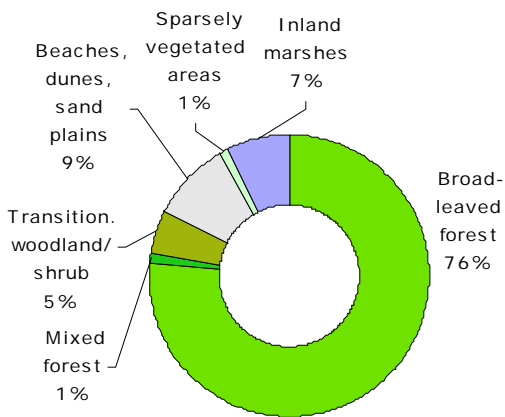
10.33. LC consumed by forest & nature 2000-2006 [% of total]



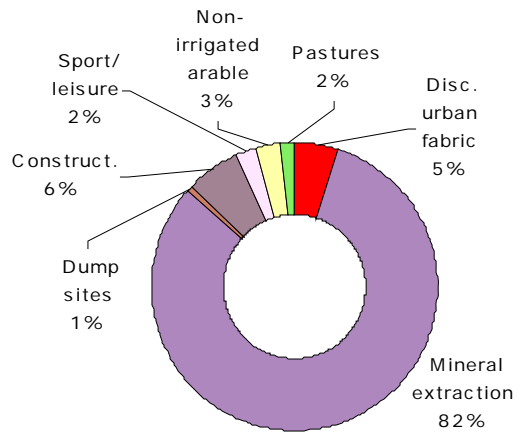
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



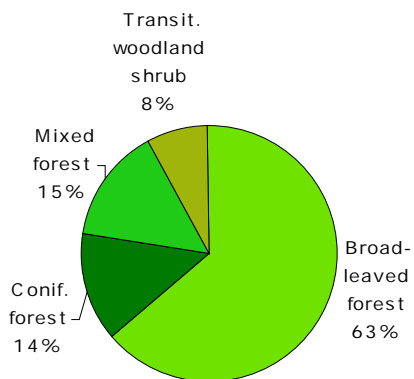
10.35. Consumption of forest & nature land by non-forest/nature 2000-2006 [% of total]



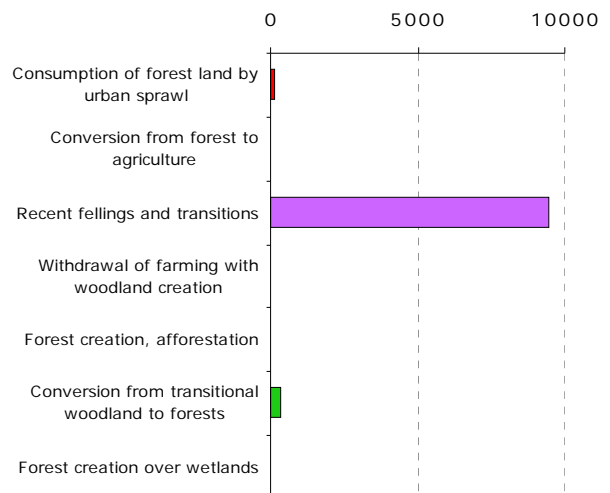
10.36. Formation of non-forest/nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

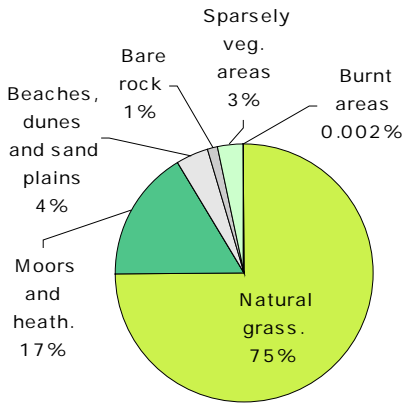


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

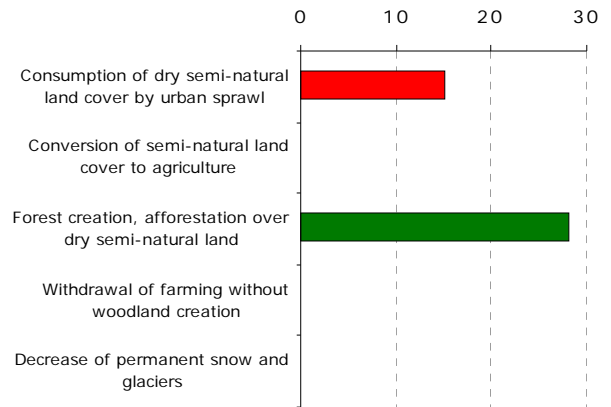


Romania

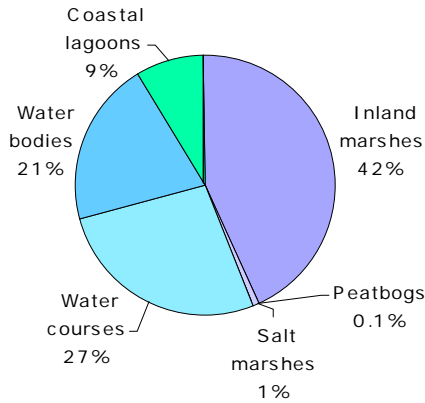
11.39. Dry semi-natural areas 2006
[% of total area]



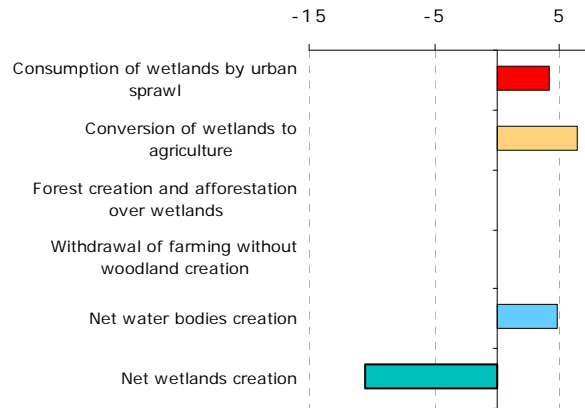
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



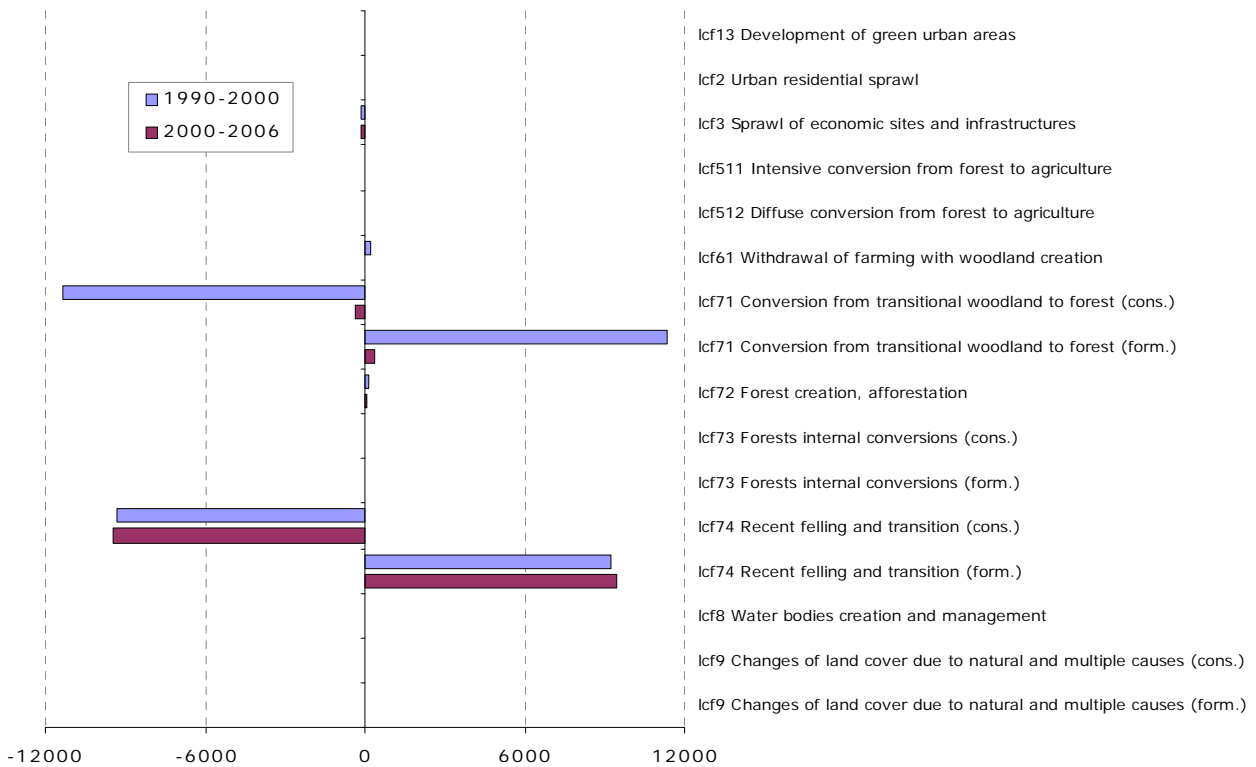
11.41. Wetlands & water 2006
[% of total area]



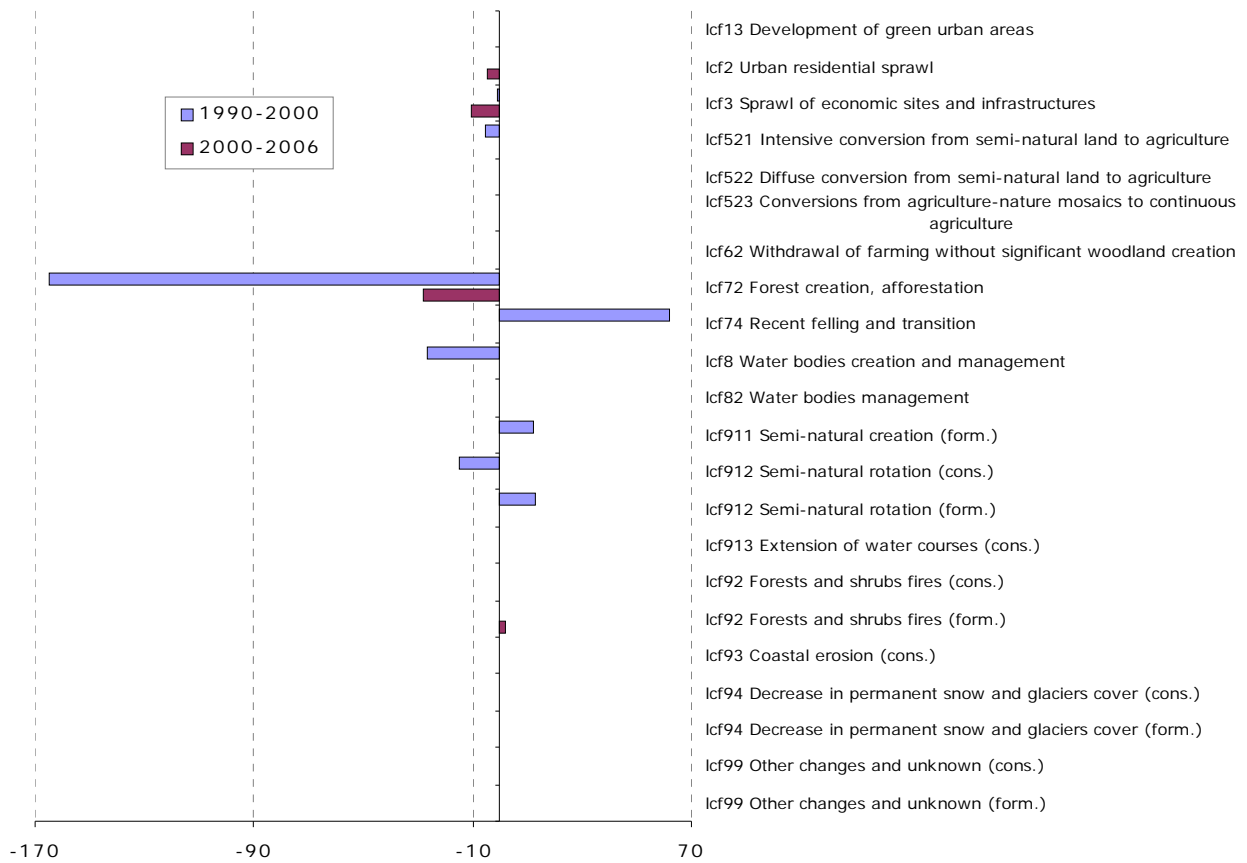
11.42. Main trends in wetlands & water consumption/formation 2000-2006 [ha/year]



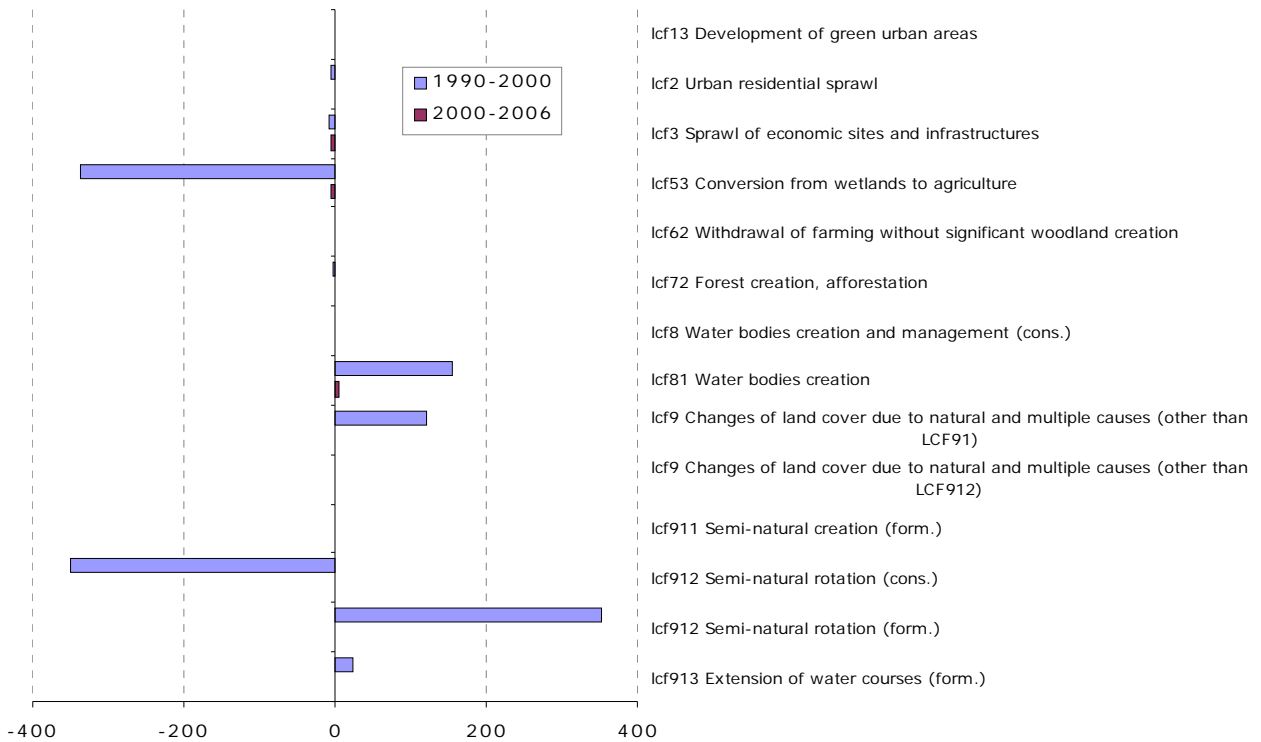
11.43. Mean annual conversions of forest & other woodland
[ha/year]



12.44. Mean annual conversions of dry semi-natural LC [ha/year]

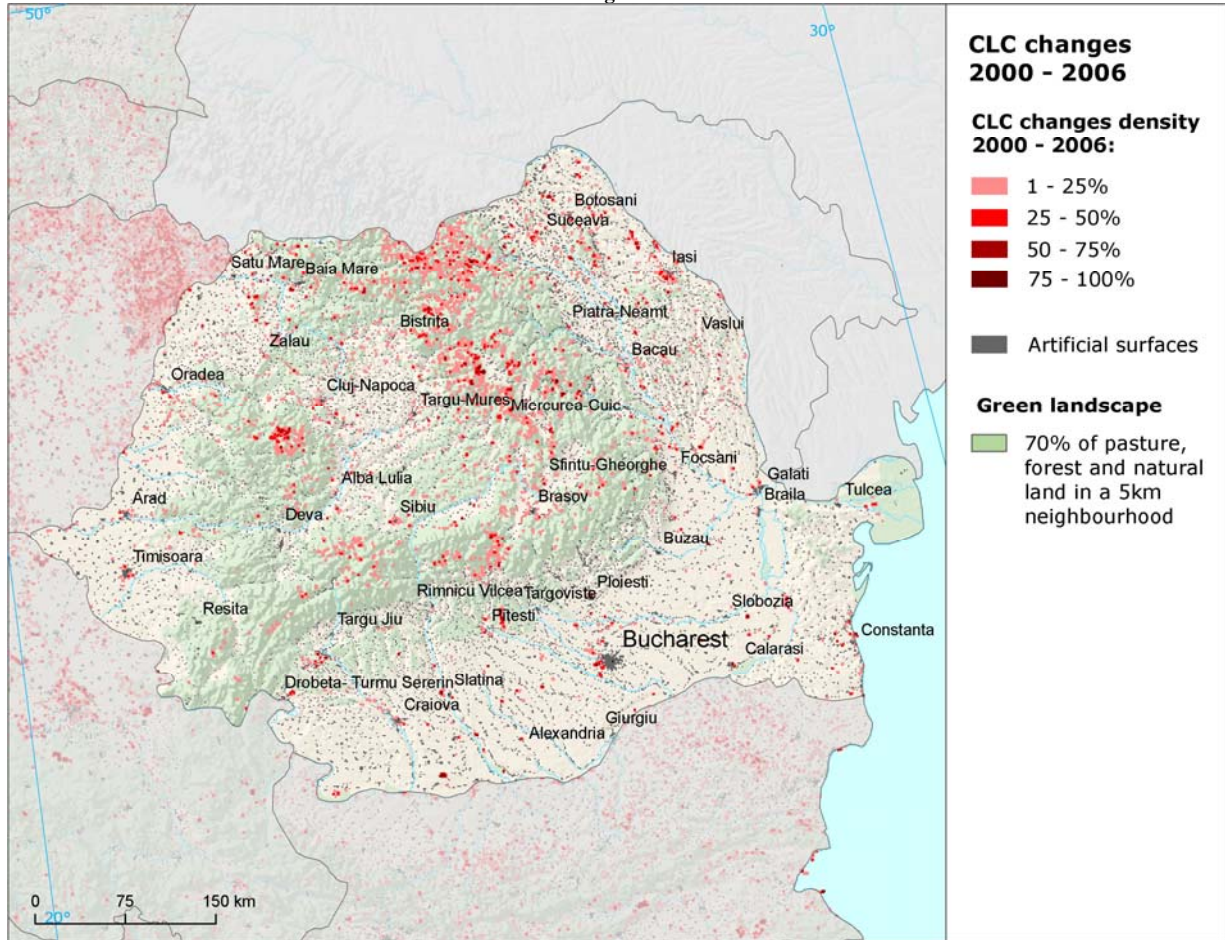


12.45. Mean annual conversions of wet lands and water LC [ha/year]

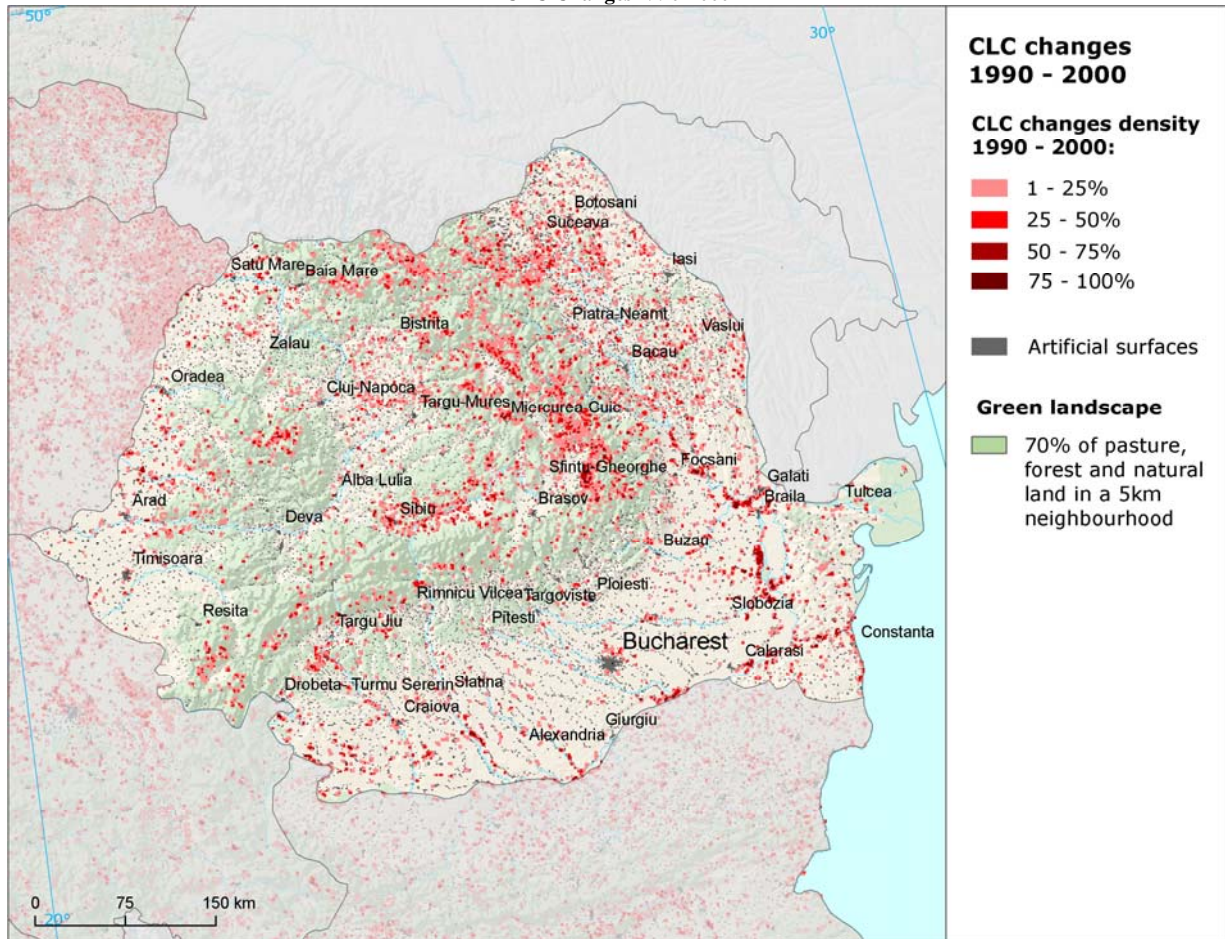


Romania

CLC Changes 2000-2006

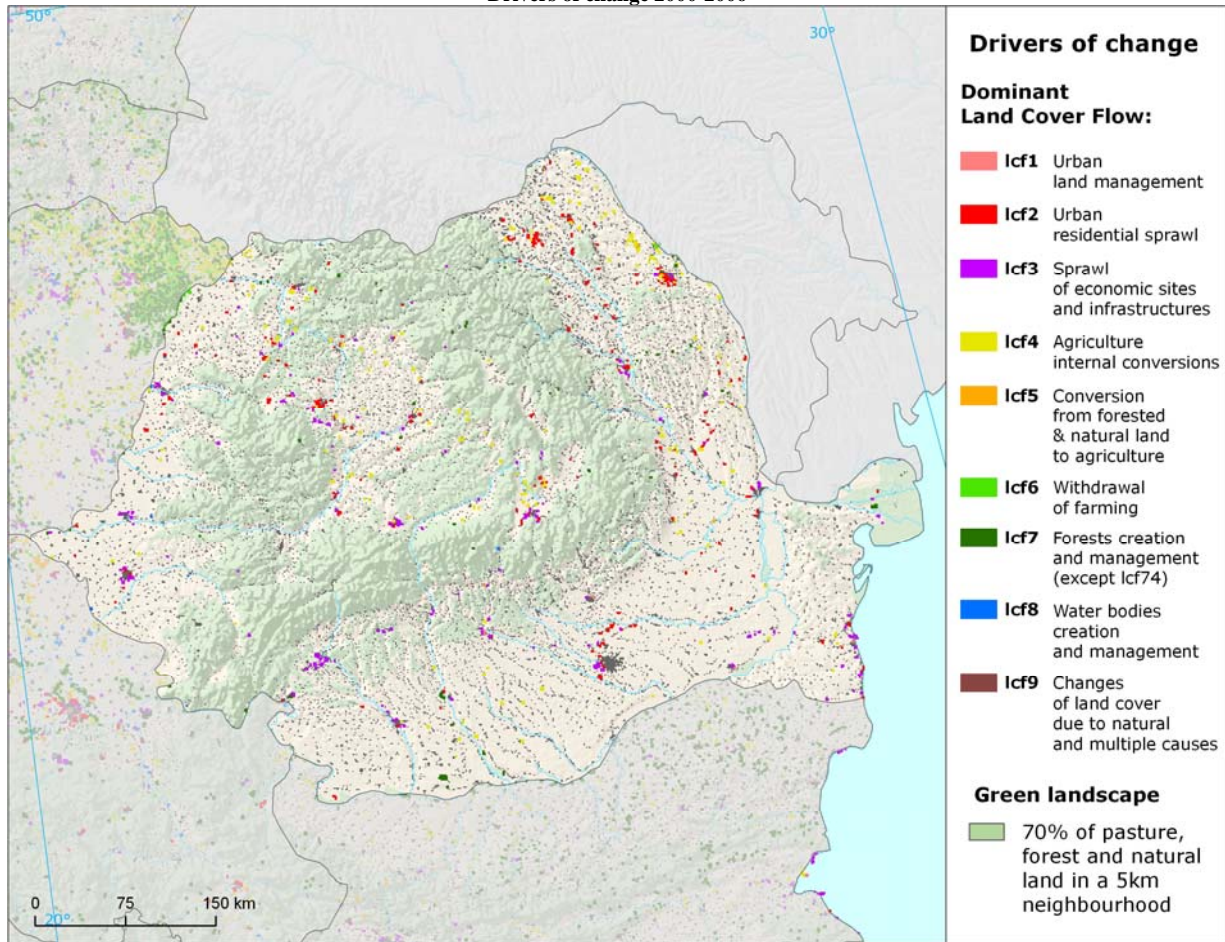


CLC Changes 1990-2000

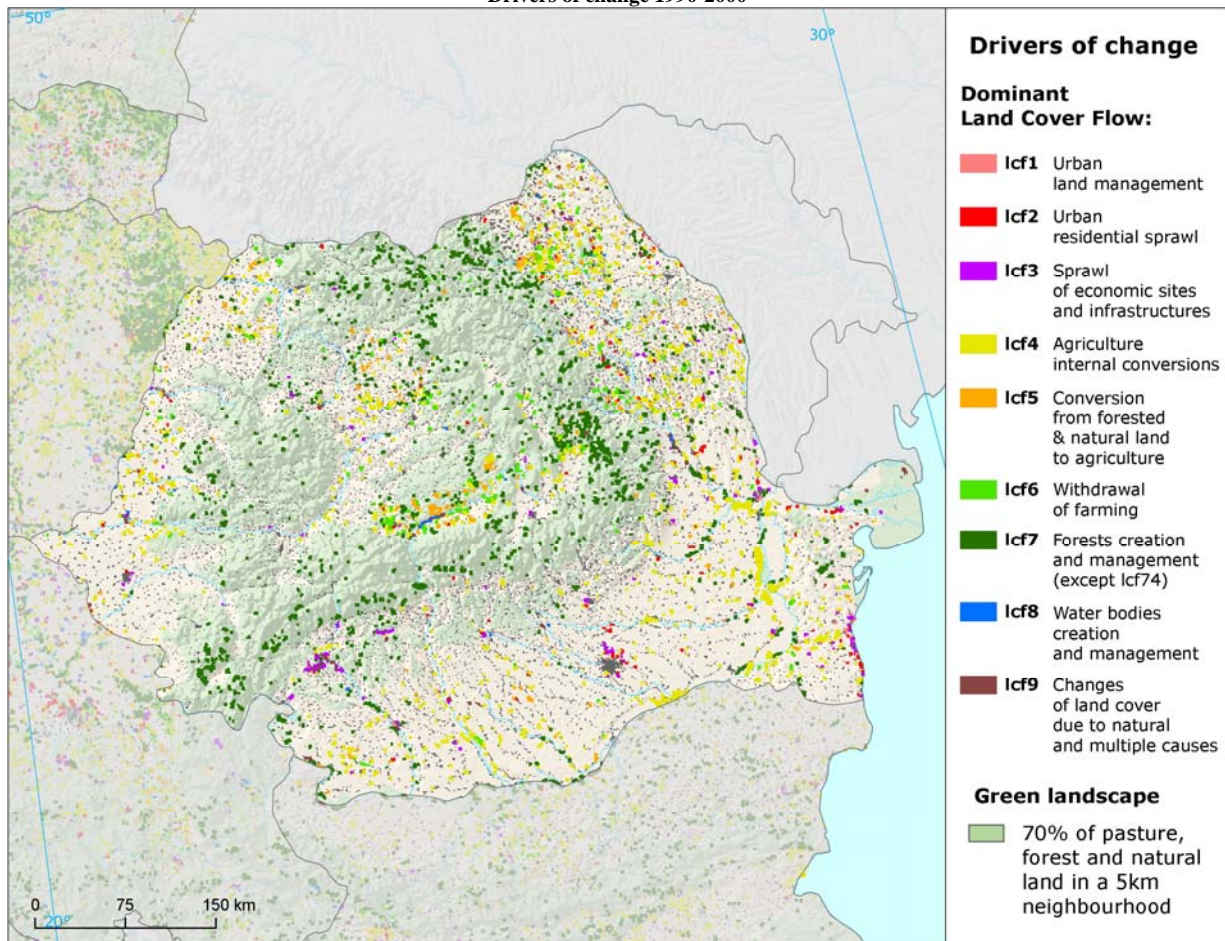


Romania

Drivers of change 2000-2006

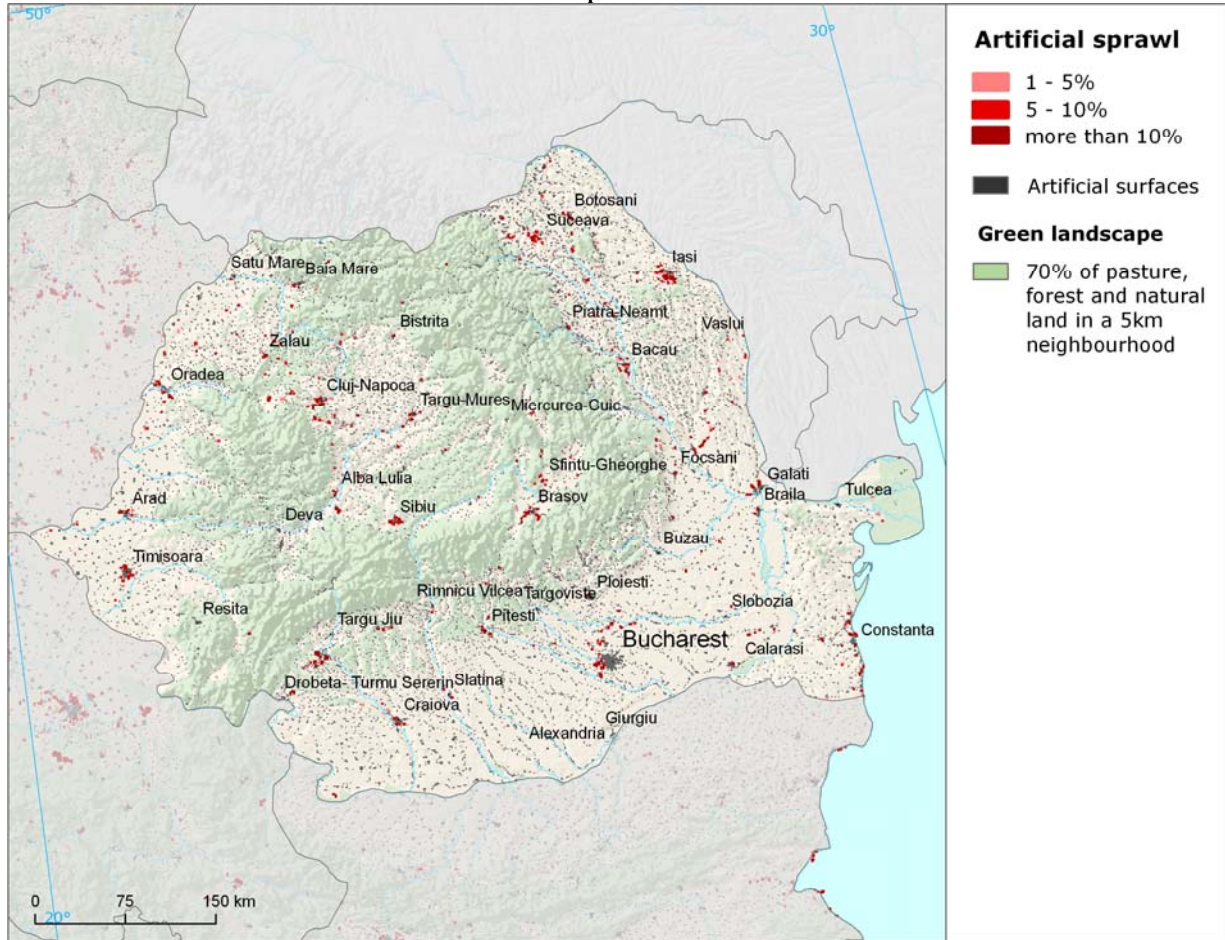


Drivers of change 1990-2000

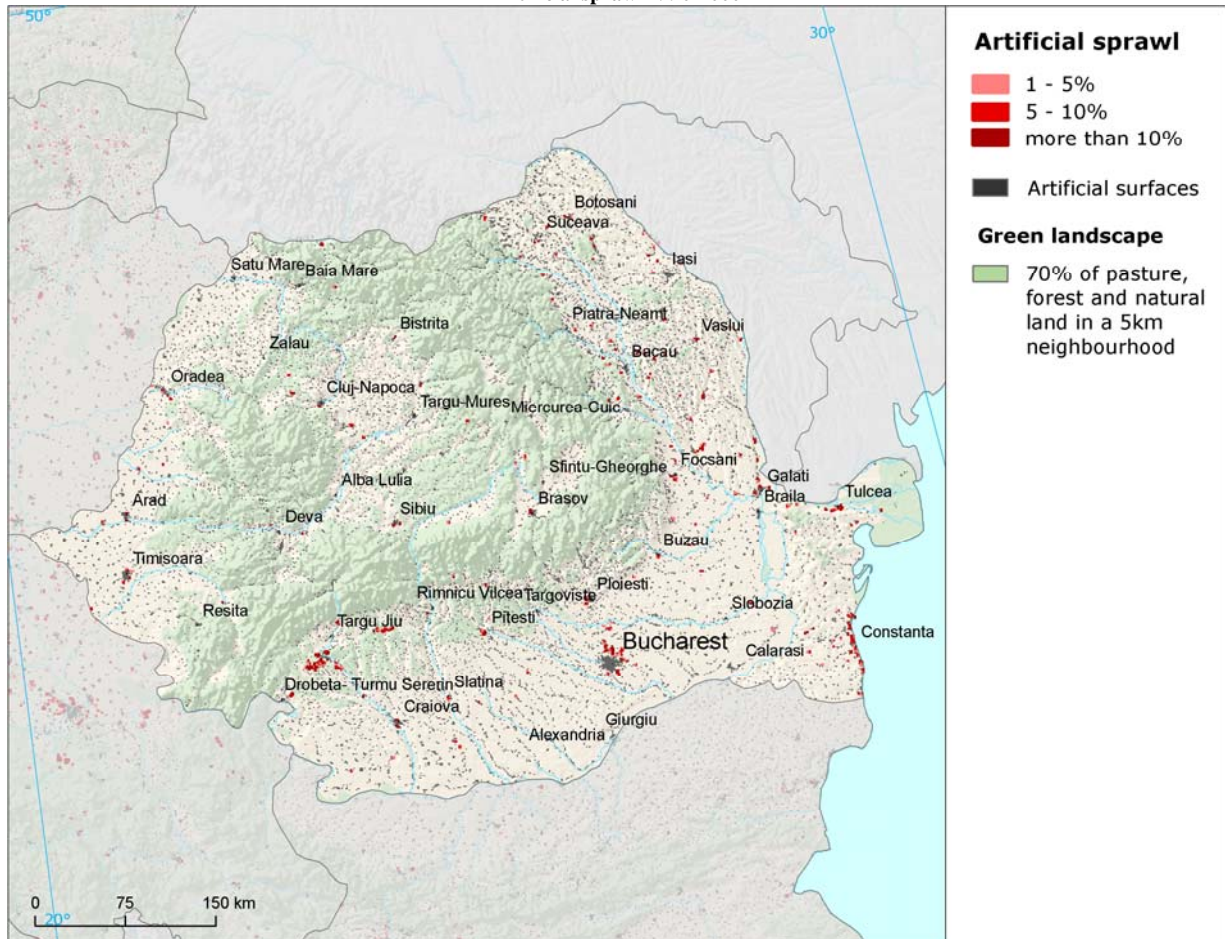


Romania

Artificial sprawl 2000-2006

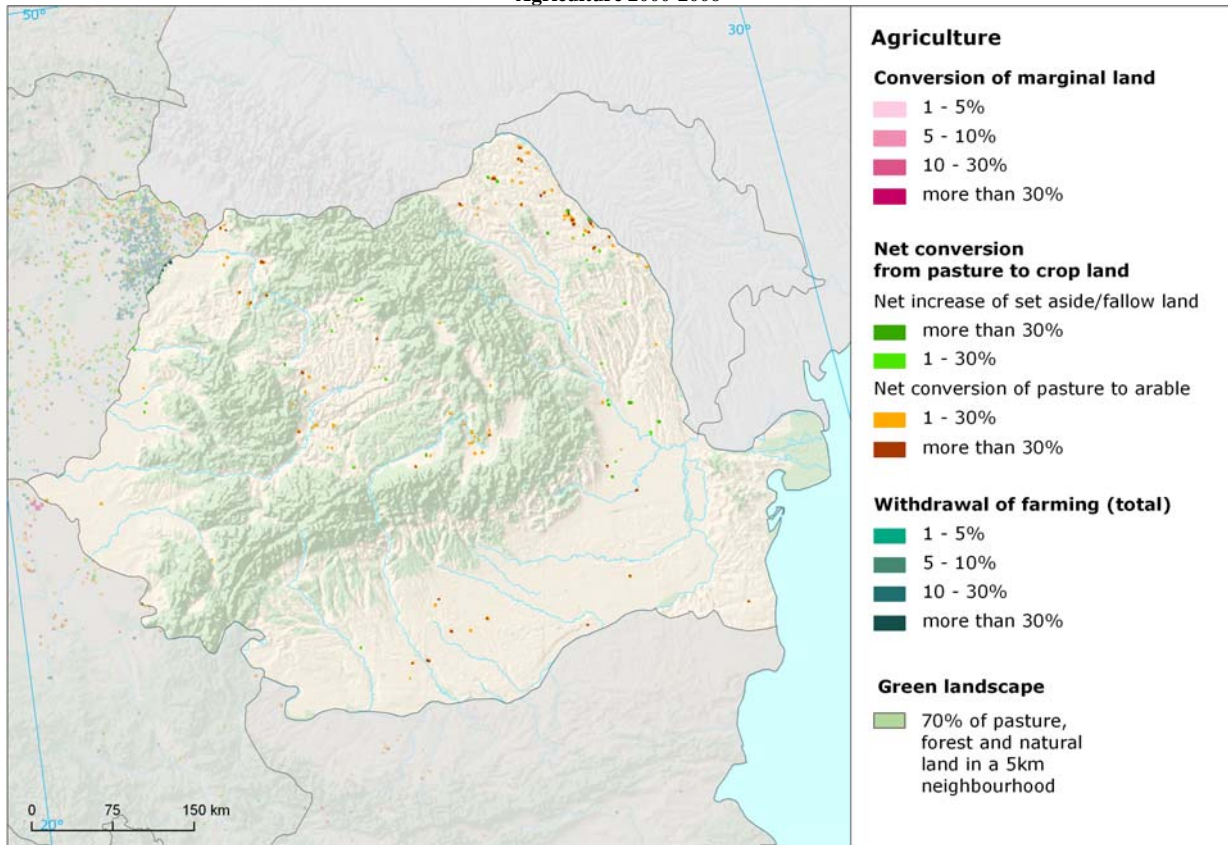


Artificial sprawl 1990-2000

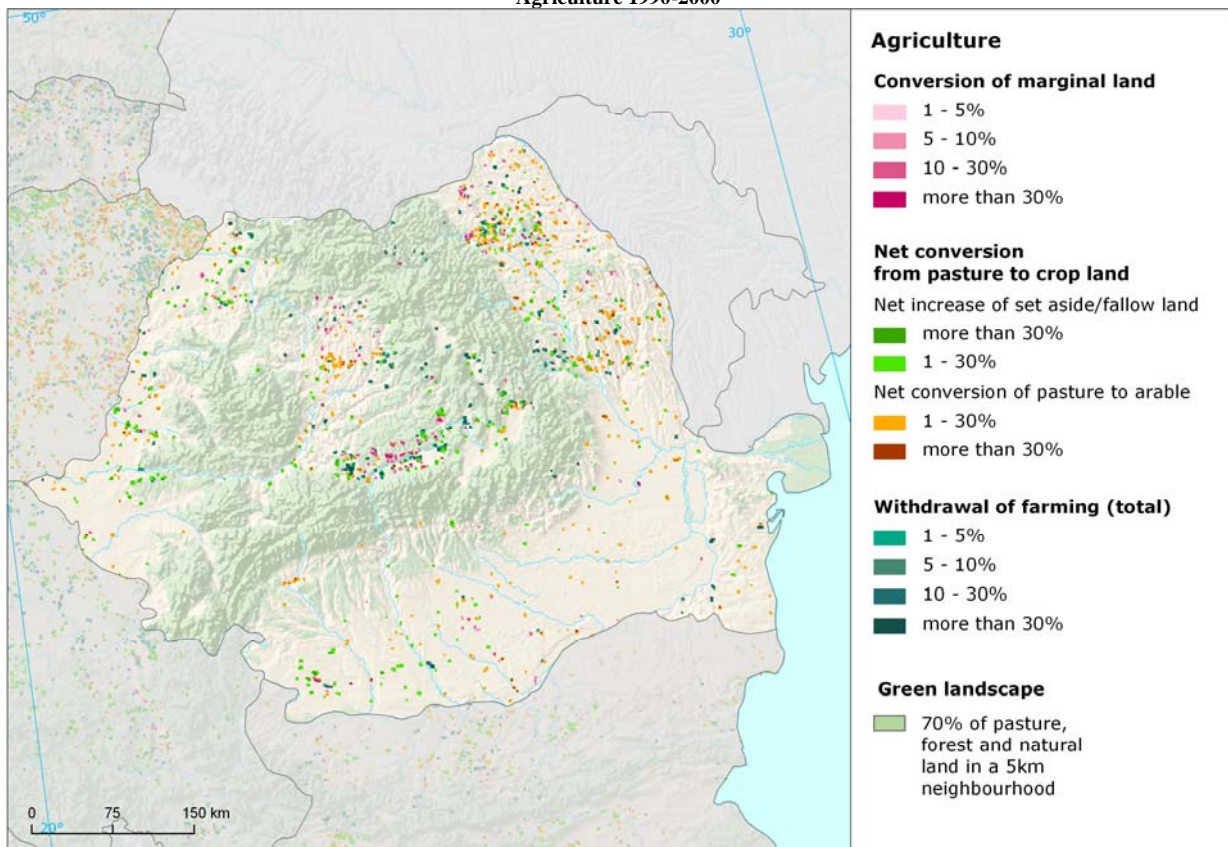


Romania

Agriculture 2000-2006

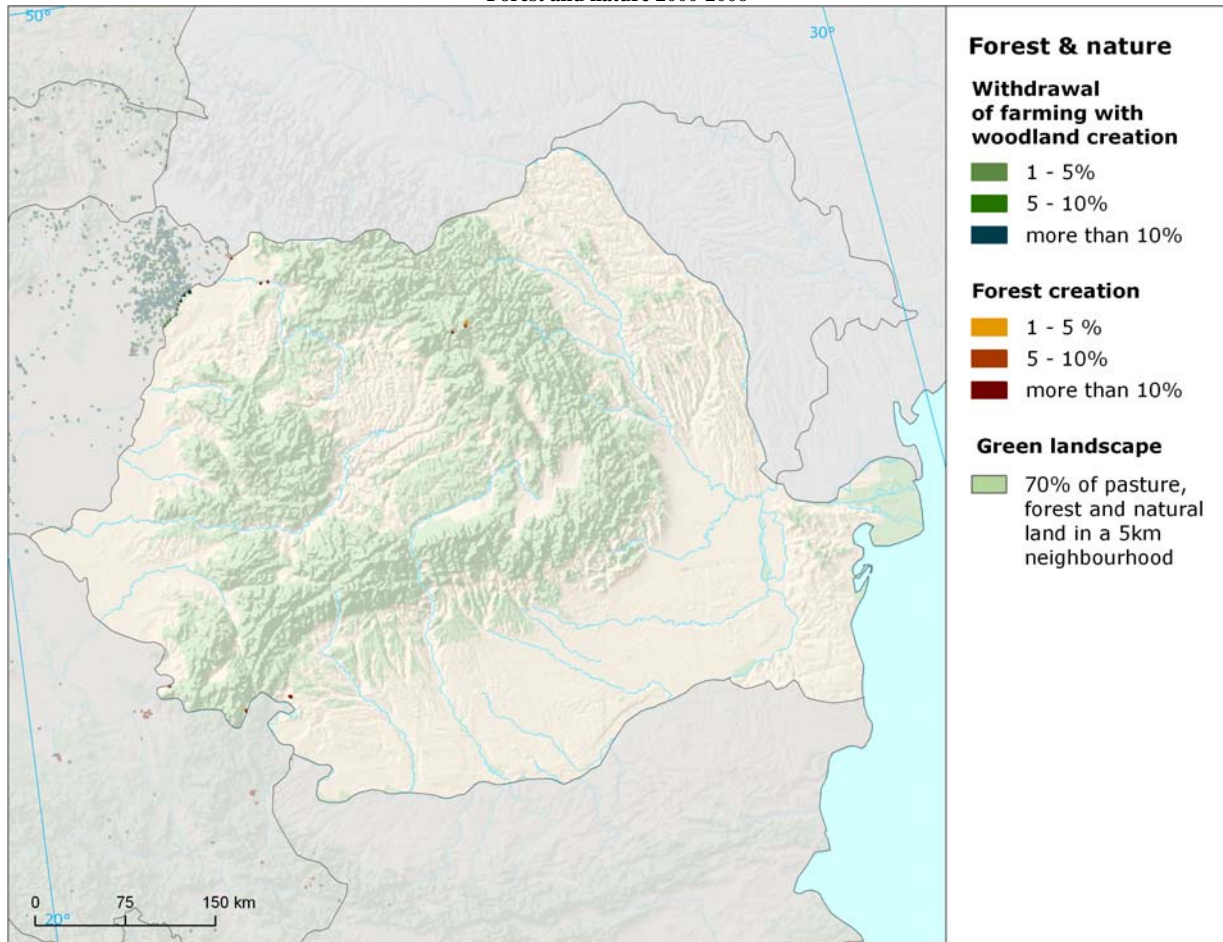


Agriculture 1990-2000



Romania

Forest and nature 2000-2006



Forest and nature 1990-2000

