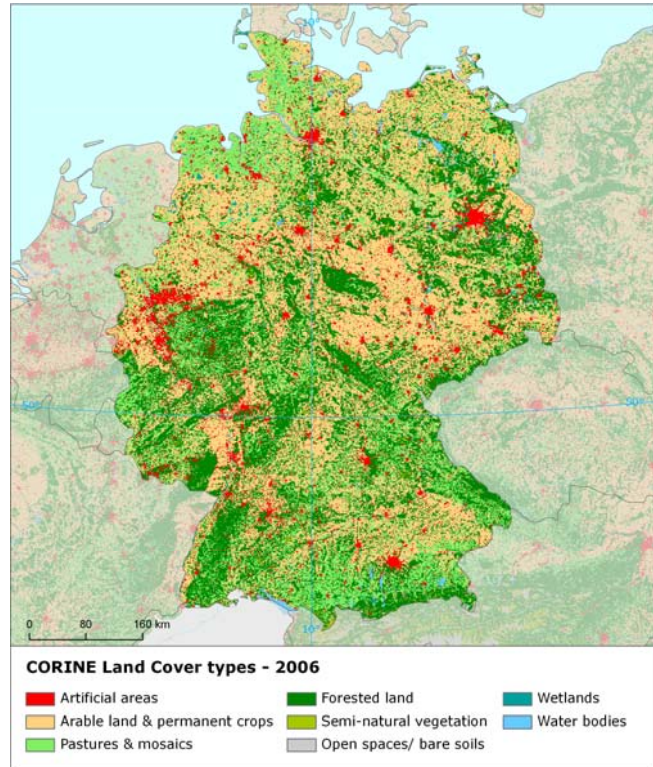


Germany

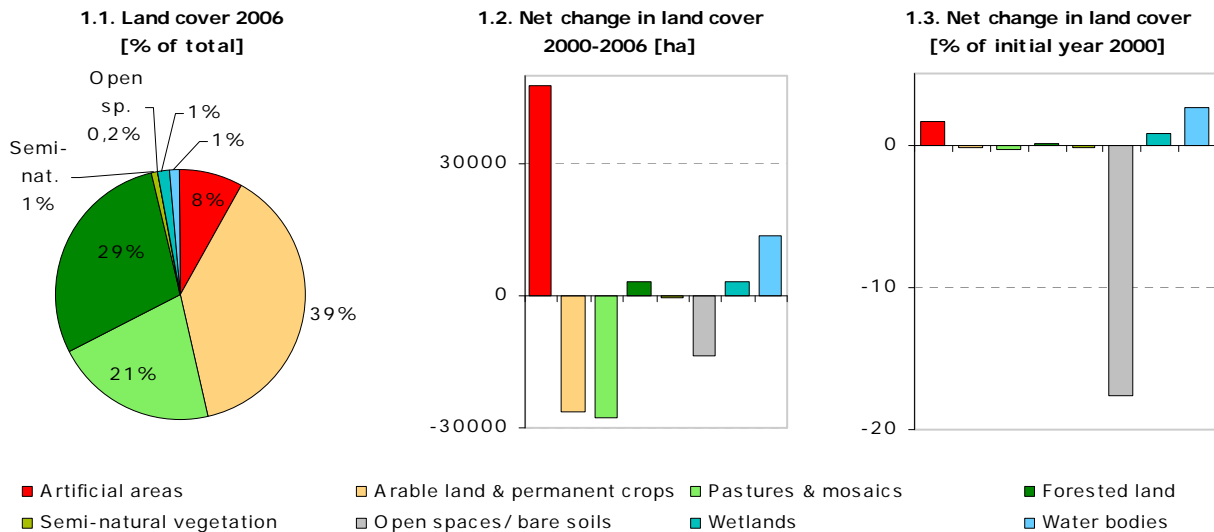
Land cover 2006

Overview of land cover & change 2000-2006

In Germany, the share of main land cover types remain stable - arable land and permanent crops dominate with 39% of the total, followed by forested land (29%), pastures and mosaics (21%), and artificial areas (8%). Water bodies, wetlands and semi-natural land cover classes make up the rest. The situation in this period is characterized by significant decrease of overall change dynamic with annual land cover change rate more than twice lower compared to the previous period. Despite its decreasing intensity, artificial sprawl became (due to rapid slow down of internal agriculture conversions) the main driver of change (39%) in German landscape. However, percentual rate of land take in Germany is quite low (0,38%), compared to other European countries. Most of the land that was converted to artificial came from the arable land and permanent crops followed by pastures and mosaics (86%) and forested land (12% which represents almost tripled share compared to the previous period). Artificial sprawl is driven mainly by diffuse residential sprawl and by sprawl of mines and quarrying areas. The other most significant flows are forest creation and management, agriculture internal conversions and also creation of water bodies. Spatially, land cover change areas are densely distributed over whole country. Land take is scattered especially over western part of the country. Artificial development in eastern part of Germany is concentrated mostly in the surroundings of the capital city Berlin. Changes of forested land occur with highest density in south-western Germany and agricultural conversions are distributed mainly over northern part of the country. There are also two significant concentrations of water bodies creation in southern part of eastern Germany.



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 Germany: 6



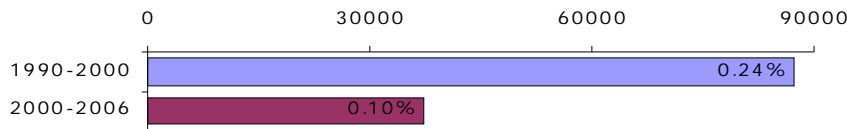
Summary balance table 2000-2006

	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	29646	138046	75054	106288	2247	759	4414	5199	361653
Consumption of initial LC	362	525	431	706	29	163	11	4	2233
Formation of new LC	839	261	152	740	26	29	45	141	2233
Net Formation of LC	477	-265	-279	34	-3	-134	34	136	0
Net formation as % of initial year	1.6	-0.2	-0.4	0.0	-0.1	-17.7	0.8	2.6	
Total turnover of LC	1201	786	583	1447	55	192	56	145	4465
Total turnover as % of initial year	4.1	0.6	0.8	1.4	2.4	25.3	1.3	2.8	1.2
Land cover 2006	30123	137782	74775	106322	2244	625	4448	5335	361653

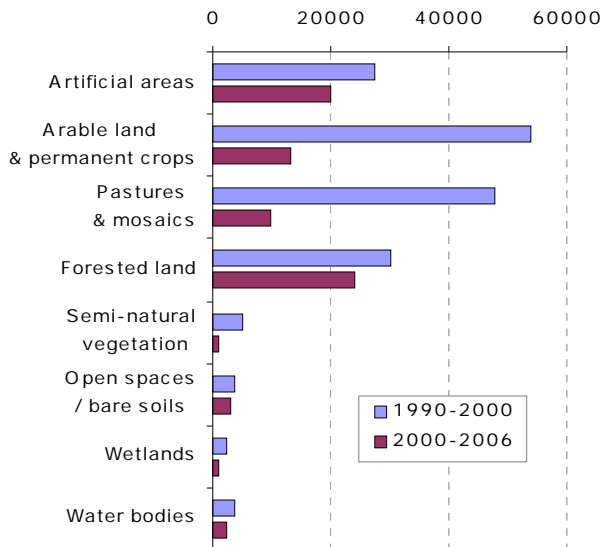
Germany

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

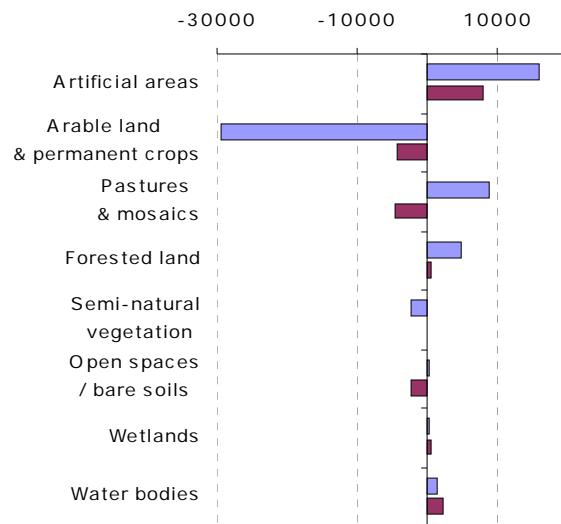
2.4. Annual land cover change
[ha/year, % of total area]



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

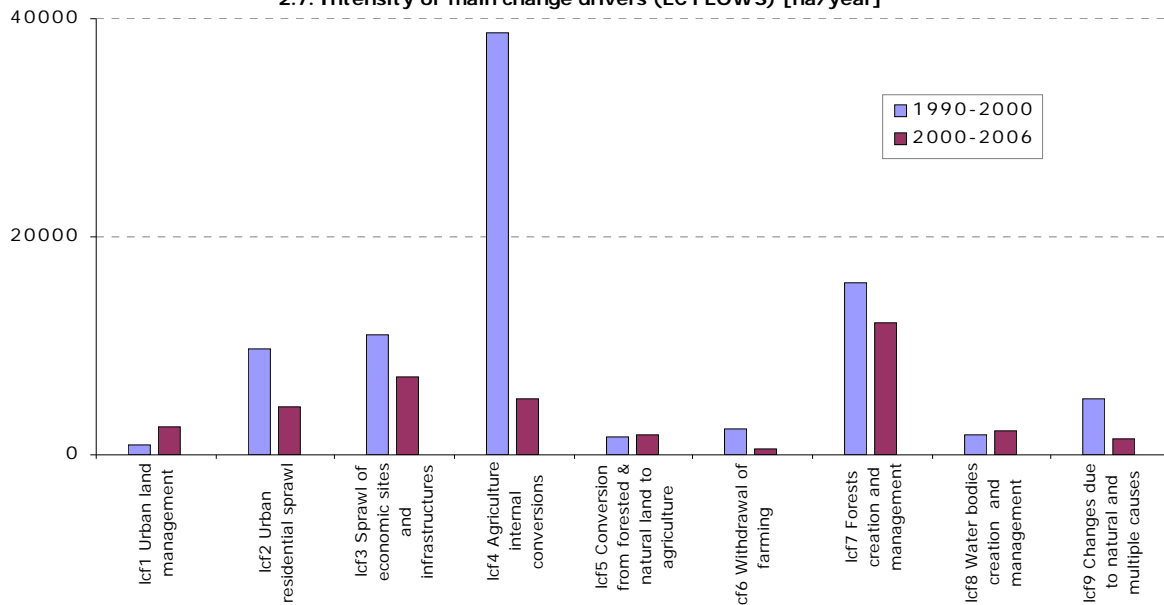


2.6. Net annual change of LC types [ha/year]



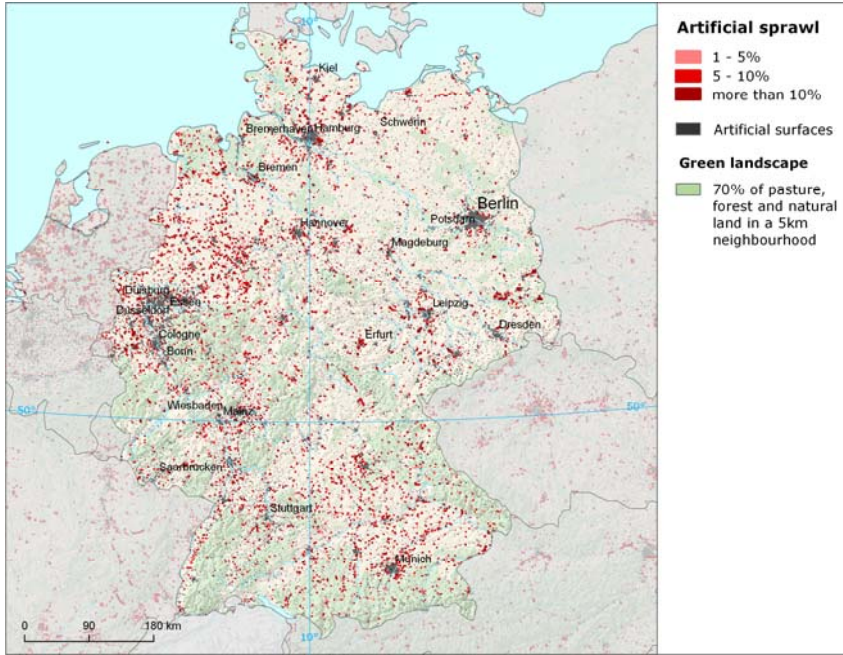
Summary trend figures		1990-2000	2000-2006
Annual land cover change [ha/year]		87218	37209
Annual land cover change as % of initial year		0.24%	0.10%
Land uptake by artificial development as mean annual change [ha/year]		20671	11269
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]		19806	10218
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]		-1572	60
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]		-16458	3218
Forest & other woodland net formation as mean annual change [ha/year]		4917	564
Dry semi-natural land cover net formation as mean annual change [ha/year]		-1772	-1844
Wetlands & water bodies net formation as mean annual change [ha/year]		1637	2837

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

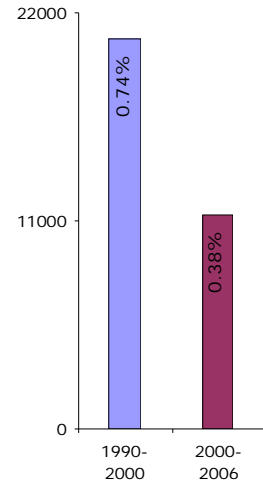


Germany

Artificial areas



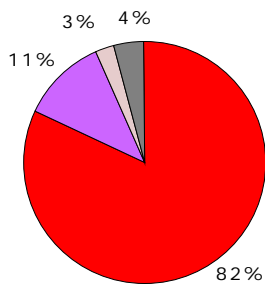
3.8. Artificial land take [ha/year, % of initial year]



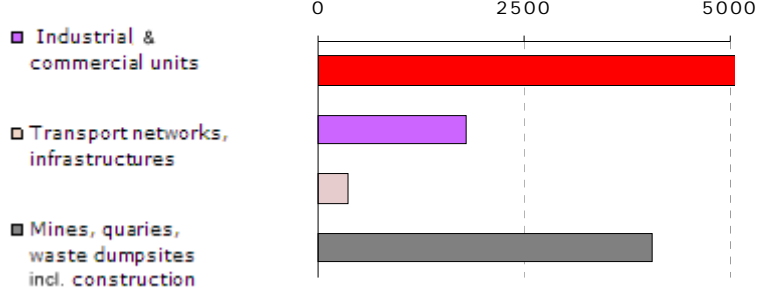
Land uptake slow down

Although artificial land uptake remains the main driver of the change in German landscape, the overall intensity of this phenomenon (and especially the intensity of residential and commercial/industrial sprawl) rapidly decreased compared to previous period. The only sprawl type with increasing intensity is the one associated with road and rails infrastructure development. Most of the artificial development is still driven by sprawl of discontinuous residential fabric. The other main drivers of land take are sprawl of mineral extraction sites and sprawl of industrial and commercial sites. Most of the land that was converted to artificial came from the arable land and permanent crops class (65%), followed by pastures and mosaics (21%), forested land (12%) and semi-natural classes (1%). Besides the sprawl over non-artificial areas, internal recycling and development of urban land accelerated and became an important driver of artificial change in this period. This is represented mainly by conversion of former construction sites into developed urban areas. Conversion of developed areas (mainly mineral extraction areas) into agricultural land, forest and natural areas or water bodies, which was observed already in previous period, has been also slowed down in this period. However, this consumption has still quite significant share on total artificial development. Spatial land take is scattered especially over former western part of the country. Artificial development in eastern part of Germany is concentrated mostly in the surroundings of the capital city Berlin.

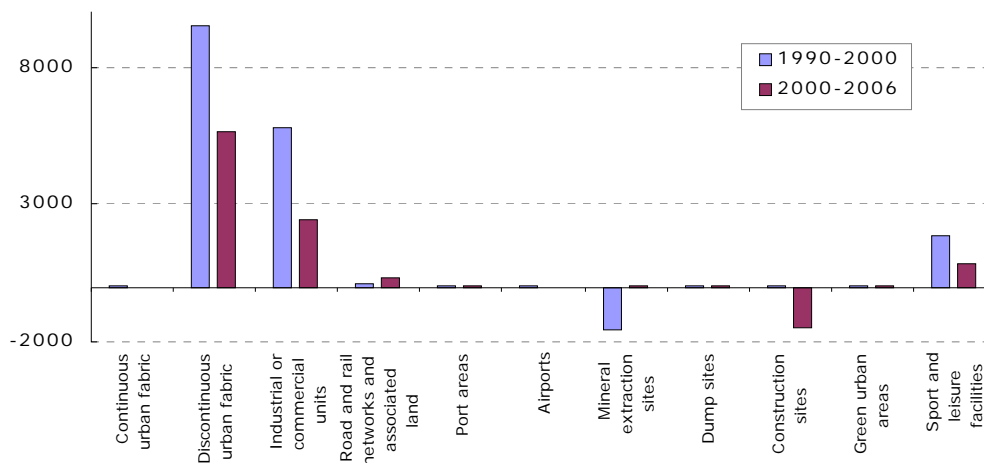
3.9. Artificial surfaces 2006 [% of total area]



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

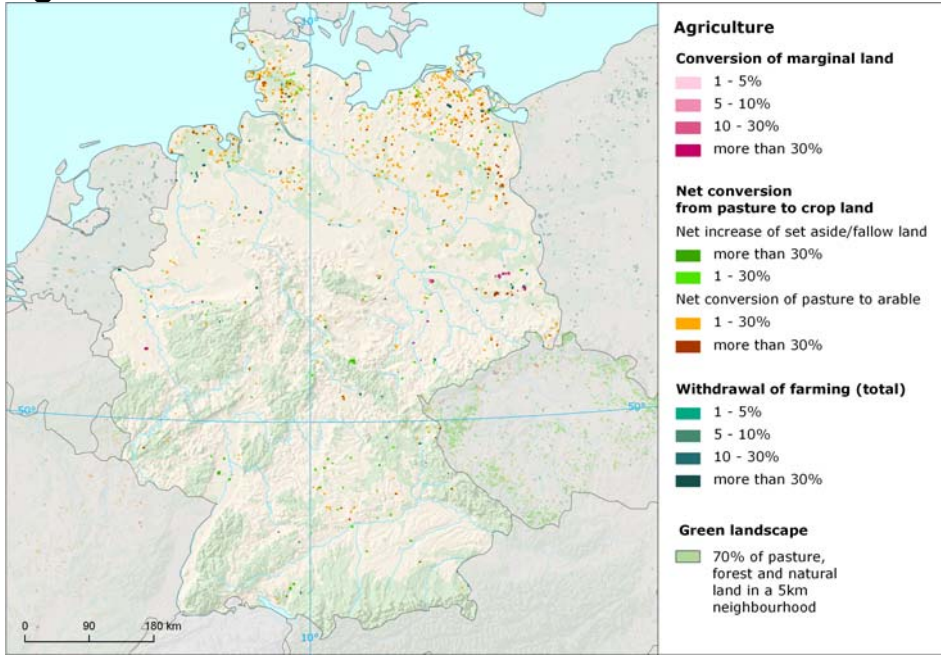


3.11. Mean annual artificial change by class [ha/year]



Germany

Agriculture

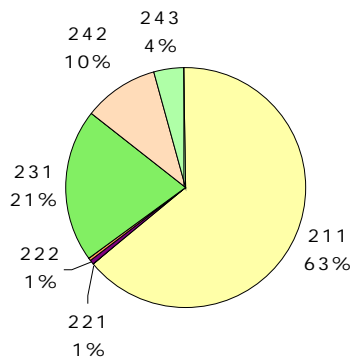


Change in agricultural slow down, inversion of internal agriculture development

Internal agriculture conversions lost most of its intensity, compared to period 1990-2000 and development of agricultural land cover has been much more influenced by consumption of agricultural land by artificial land take though with only half the intensity compared to 1990-2000. There also occurs significant slow down of withdrawal of farming with woodland creation. On the contrary, conversion from developed areas to agriculture (namely conversion of mineral extraction and construction sites into pastures or arable land) accelerated.

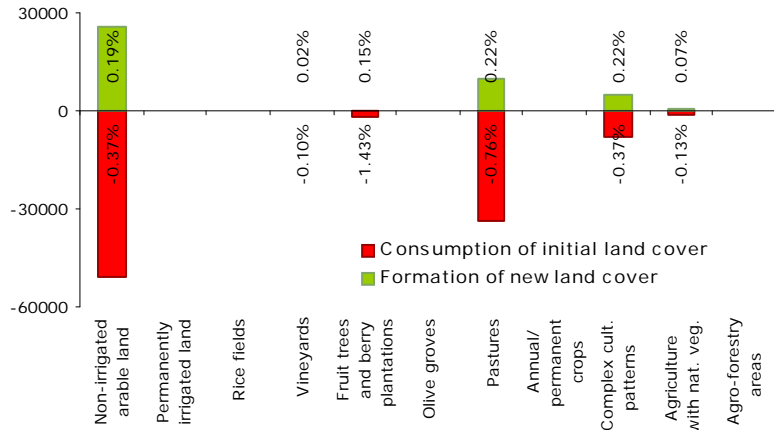
Net change balance of pastures and mosaics in 2000-2006 is opposite to the balance from previous period, with prevailing consumption of grasslands. It is caused by inversion of internal agricultural changes - the intensity of pasture extension (which was the predominant internal agriculture conversion in 1990-2000) rapidly decreased and intensive conversion from pasture to arable land become the prevailing internal change in agriculture development. Conversion of pasture to arable land occurs mostly in northern Germany.

4.12. Agricultural areas 2006 [% of total area]

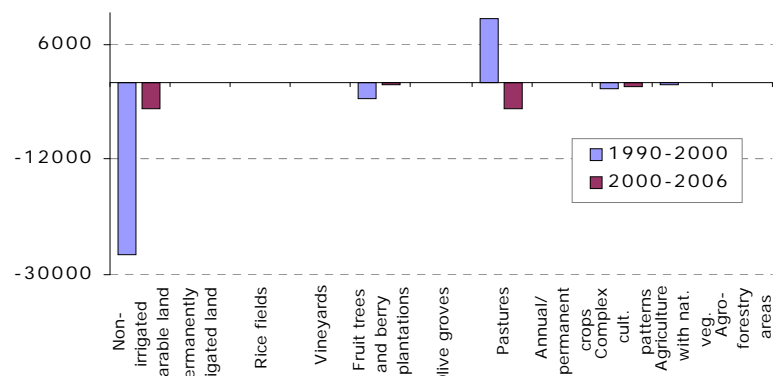


- 211 Non-irrigated arable land
- 212 Permanently irrigated land
- 213 Rice fields
- 221 Vineyards
- 222 Fruit trees and berry plantations
- 223 Olive groves
- 231 Pastures
- 241 Annual crops associated with permanent crops
- 242 Complex cultivation patterns
- 243 Agriculture land with significant areas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

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

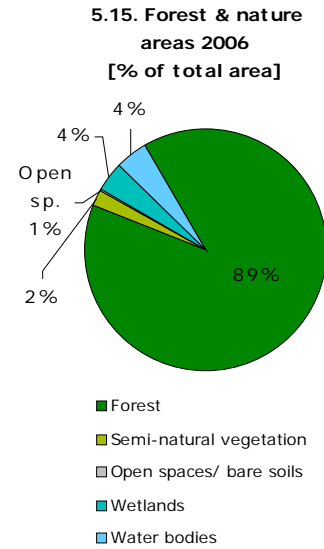
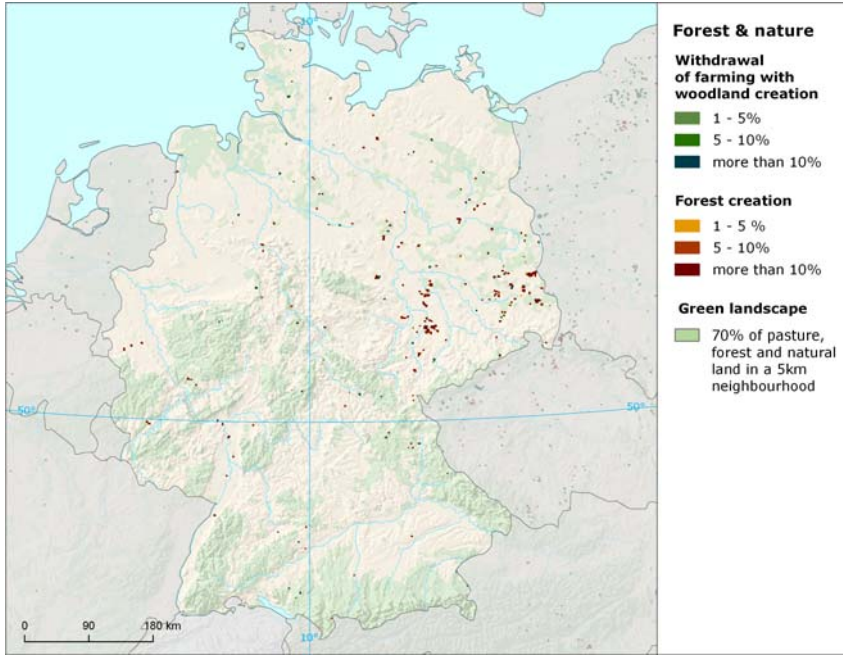


4.14. Mean annual agricultural change by class [ha/year]



Germany

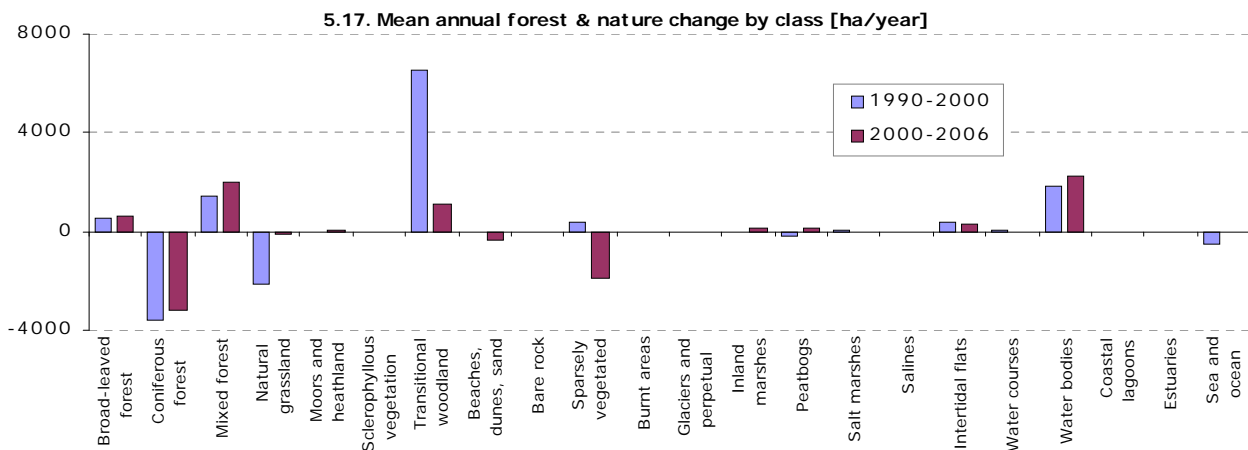
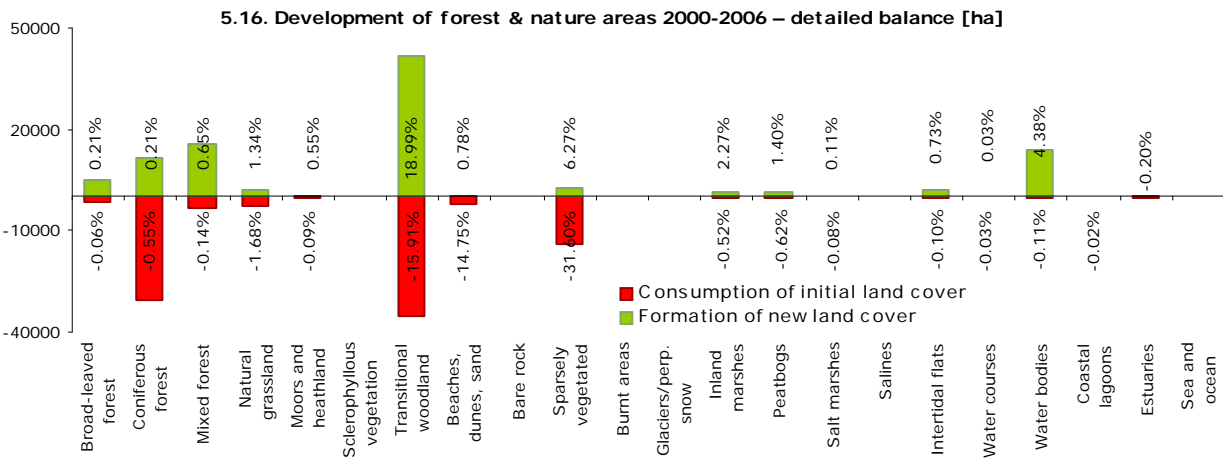
Forest & nature



Transition woodland and water bodies creation over mineral extraction sites

Compared to other European countries, changes of natural areas in German landscape are not too extensive. Forested land has the most significant share on changes of natural land; however, its net change is low, with prevailing internal conversions between standing forests and transitional woodland due to regular forestry activities.

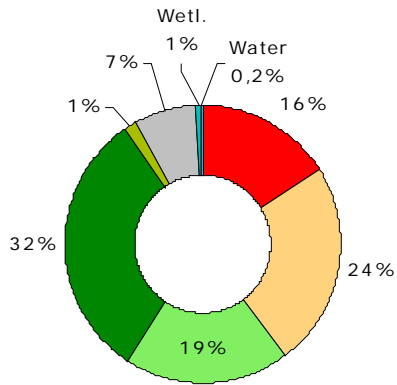
Besides these internal forest changes, development of natural land in Germany is driven mostly by forest creation (represented by transitional woodland creation over former mineral extraction sites, sparsely vegetated areas and natural grasslands) and water bodies creation (from sparsely vegetated areas, mineral extraction sites and arable land). Also, wetlands development shows positive net balance. On consumption side, decrease of natural areas is mainly driven by sprawl of mineral extraction sites.



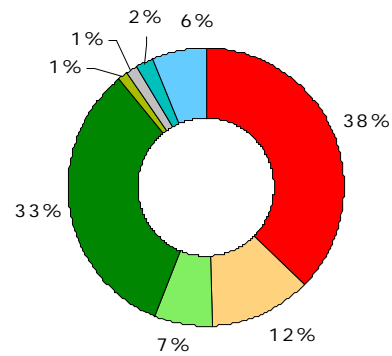
Annex: Land cover flows and trends

Land cover flows 2000-2006

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

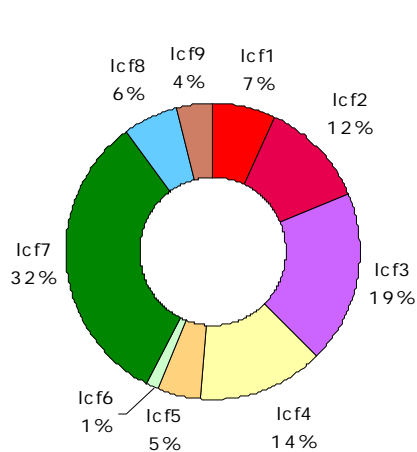


6.19. Formation of land cover 2000-2006 [% of total change area]



- 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]

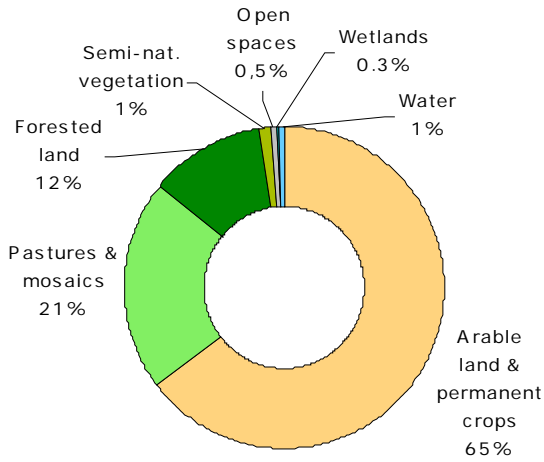


- Icf1 Urban land management
- Icf2 Urban residential sprawl
- Icf3 Sprawl of economic sites and infrastructures
- Icf4 Agriculture internal conversions
- Icf5 Conversion from forested & natural land to agriculture
- Icf6 Withdrawal of farming
- Icf7 Forests creation and management
- Icf8 Water bodies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

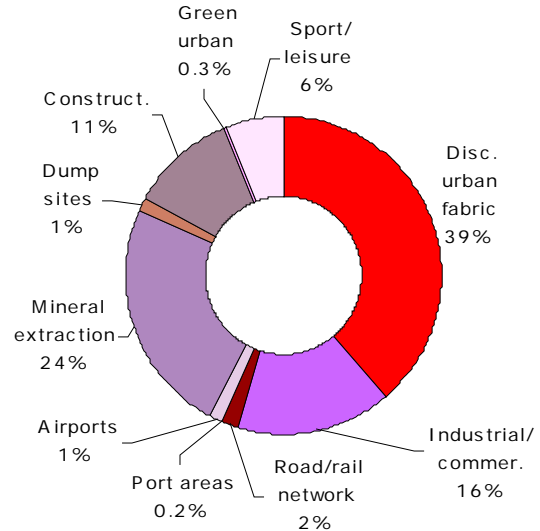
Germany

Artificial areas

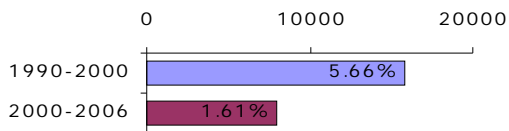
7.21. Consumption by artificial land take 2000-2006 [% of total]



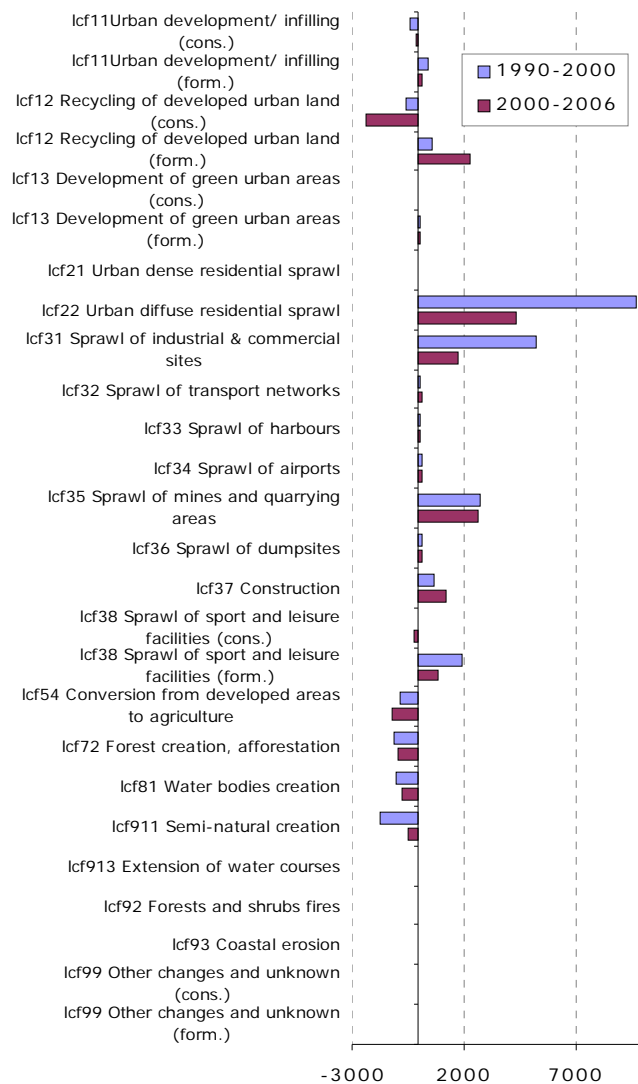
7.22. Formation by artificial land take 2000-2006 [% of total]



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



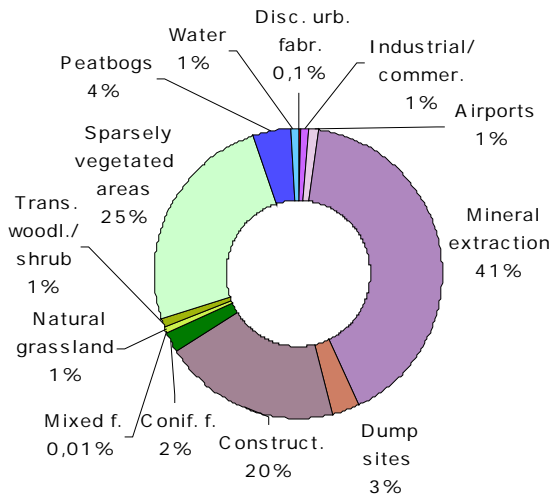
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



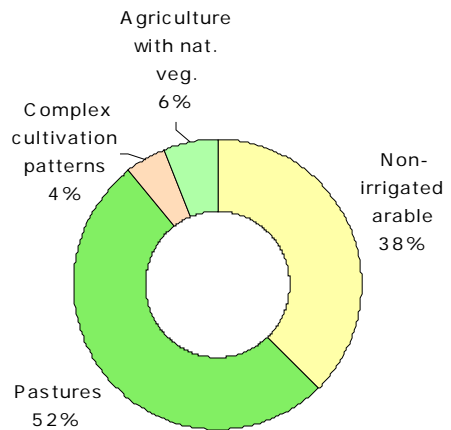
Germany

Agriculture

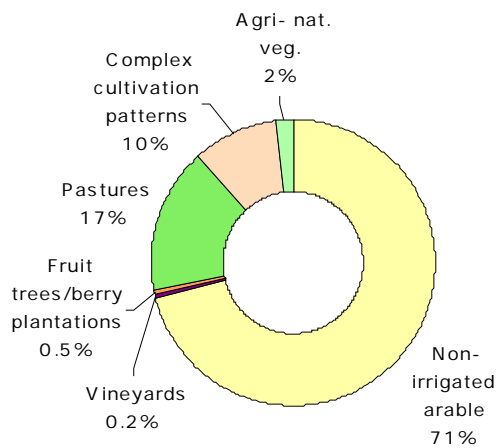
8.25. LC consumed by agriculture 2000-2006 [% of total]



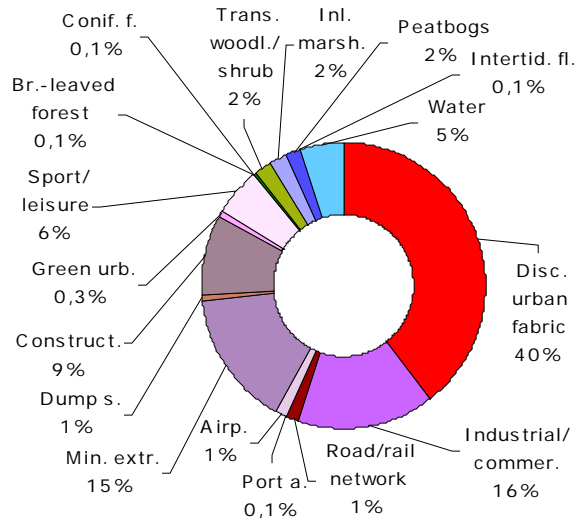
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



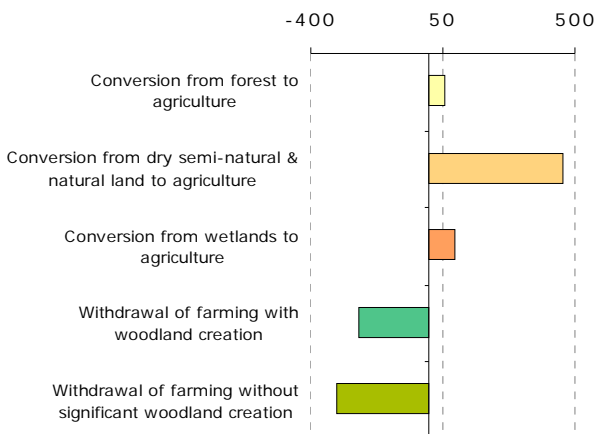
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



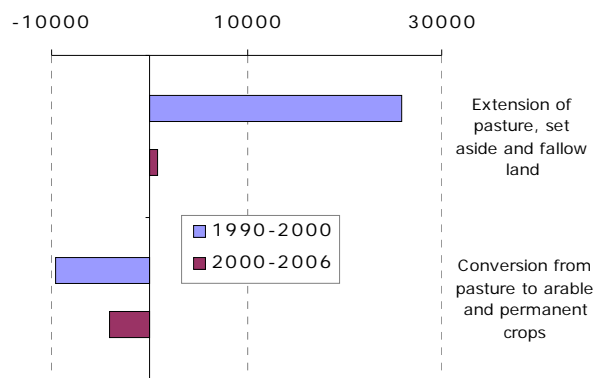
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



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

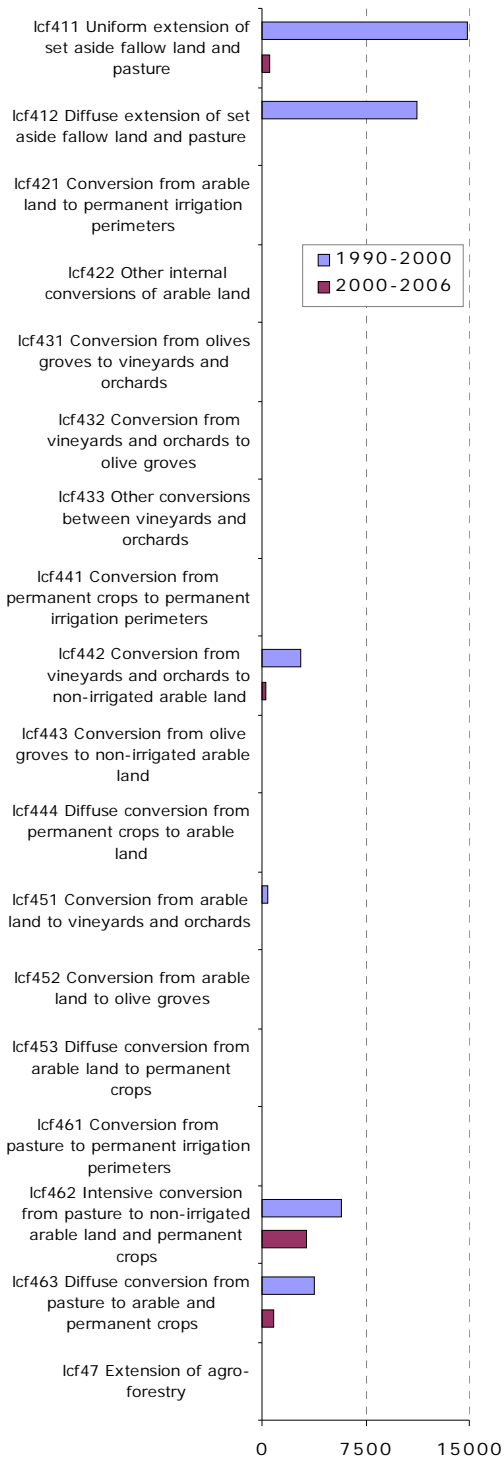


8.30. Mean annual conversion between arable land and pasture [ha/year]

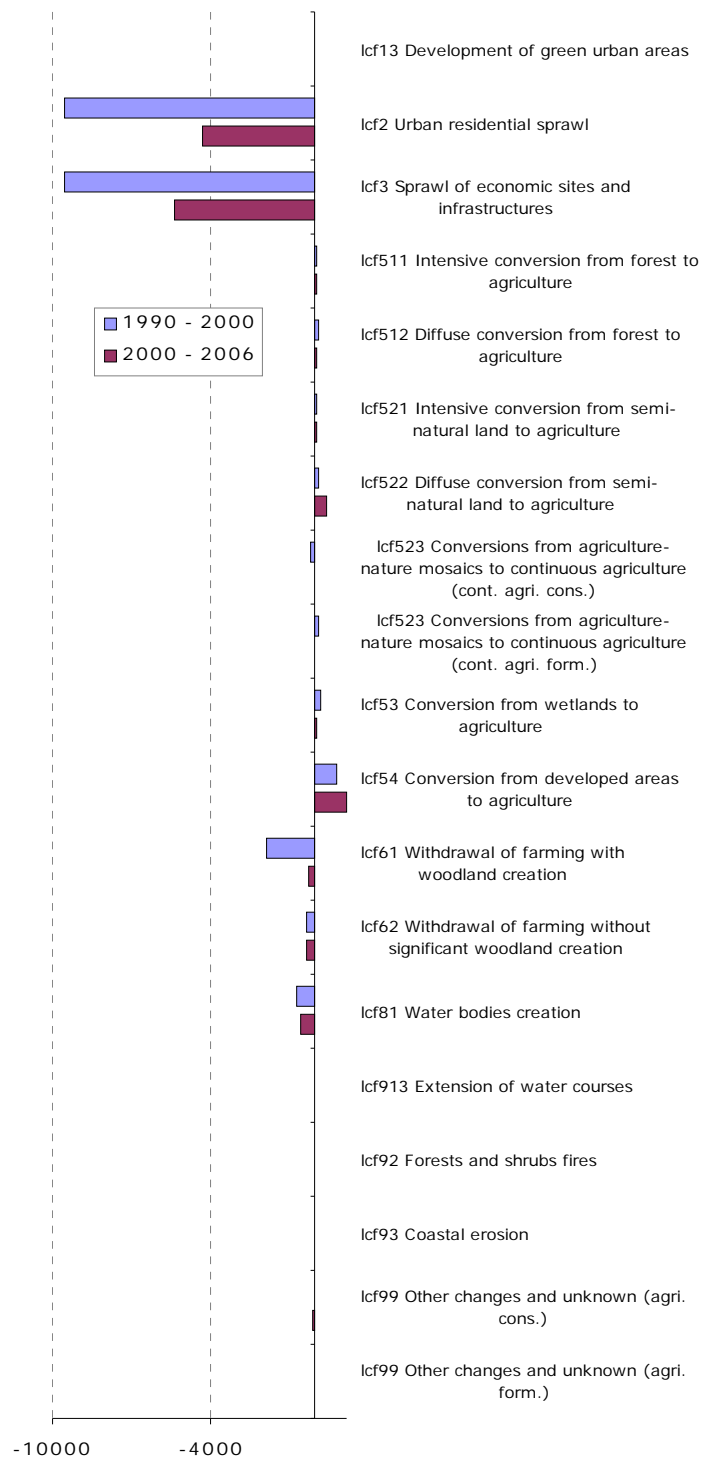


Germany

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



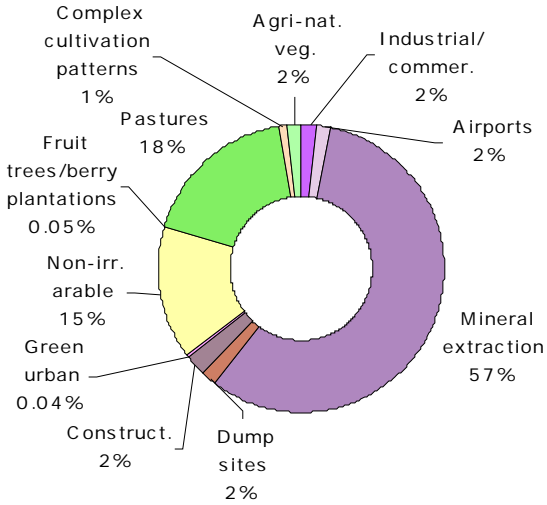
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



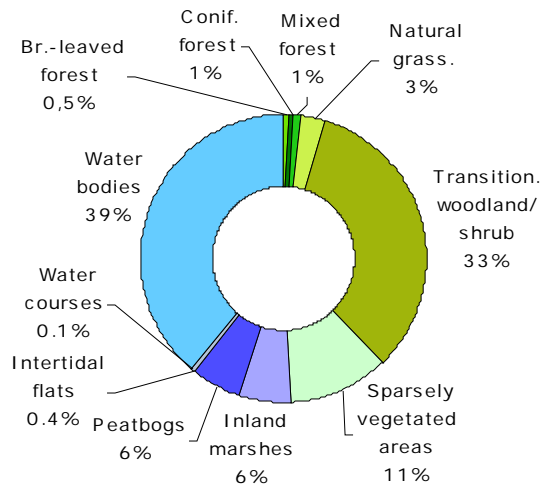
Germany

Forest & nature

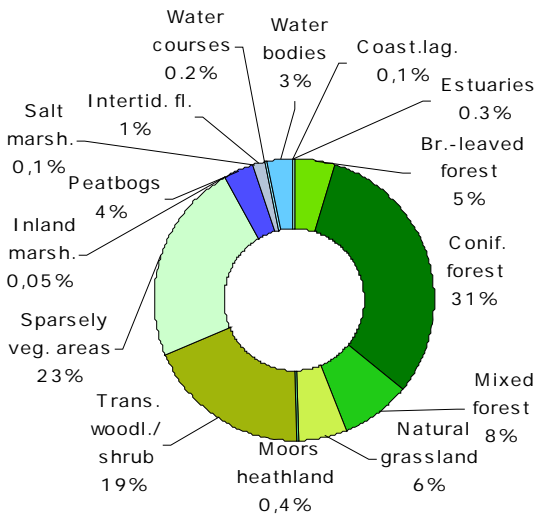
10.33. LC consumed by forest & nature 2000-2006 [% of total]



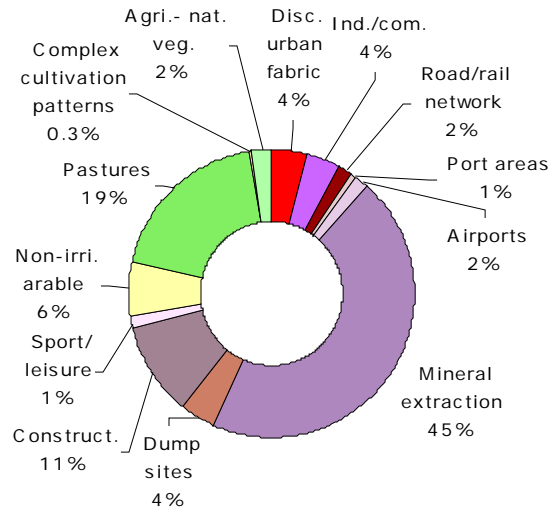
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



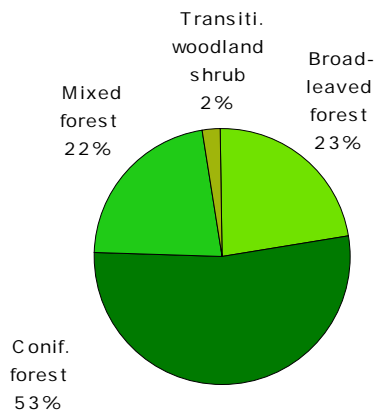
10.35. Consumption of forest & nature land by non-forest/nature 2000-2006 [% of total]



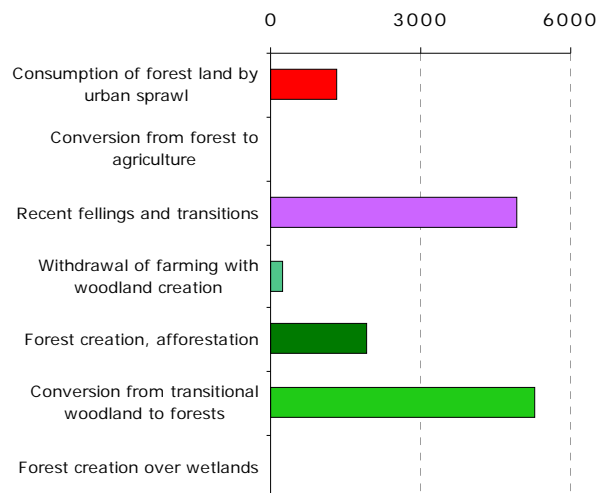
10.36. Formation of non-forest/nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

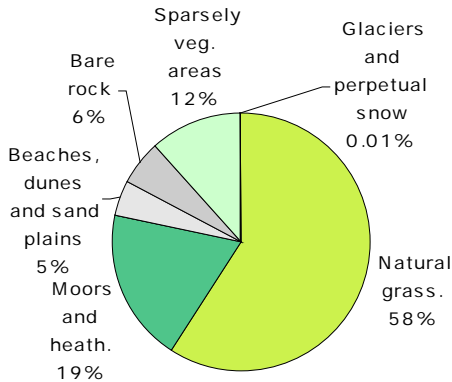


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

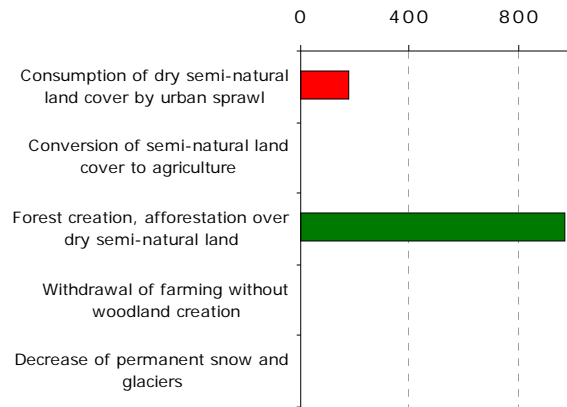


Germany

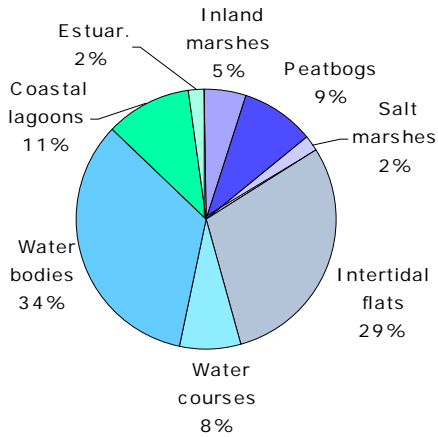
11.39. Dry semi-natural areas 2006
[% of total area]



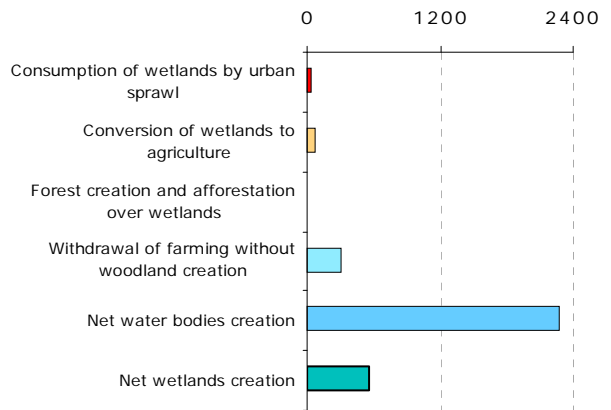
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



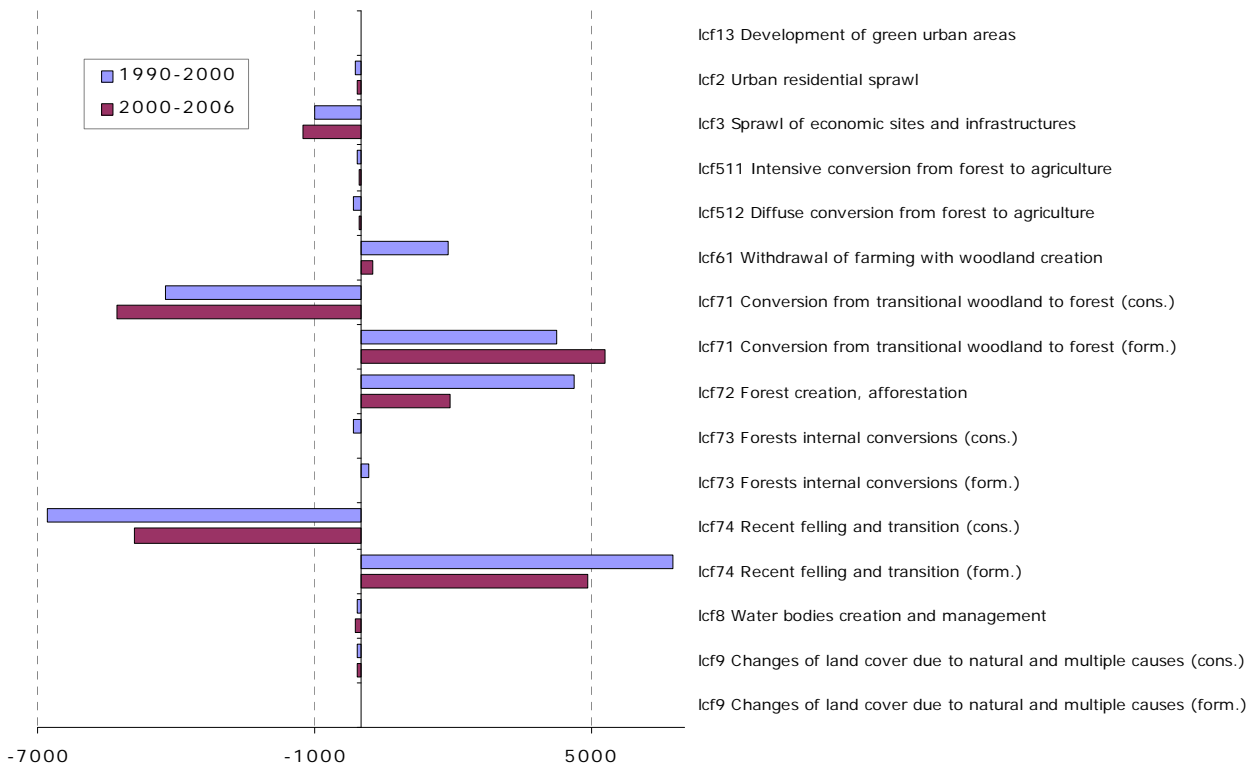
11.41. Wetlands & water 2006
[% of total area]



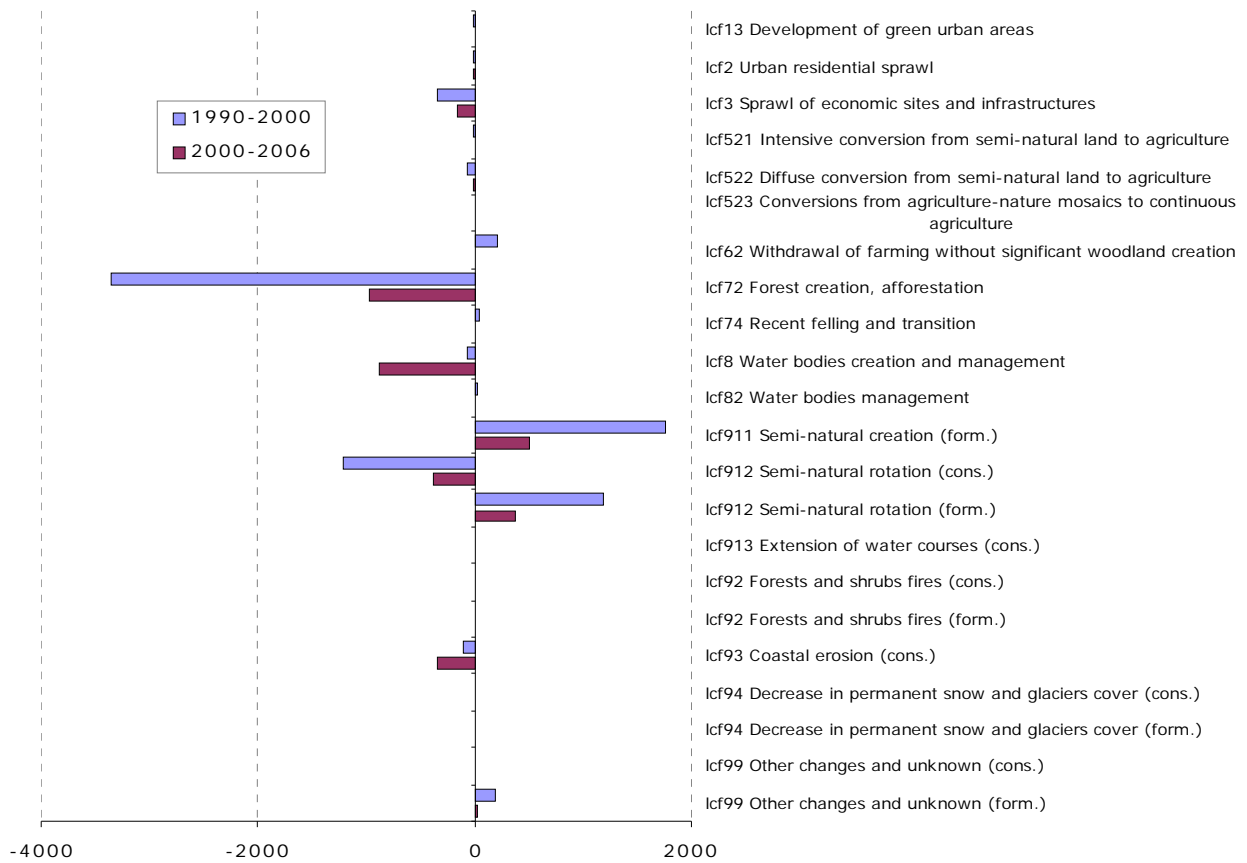
11.42. Main trends in wetlands & water consumption/formation 2000-2006 [ha/year]



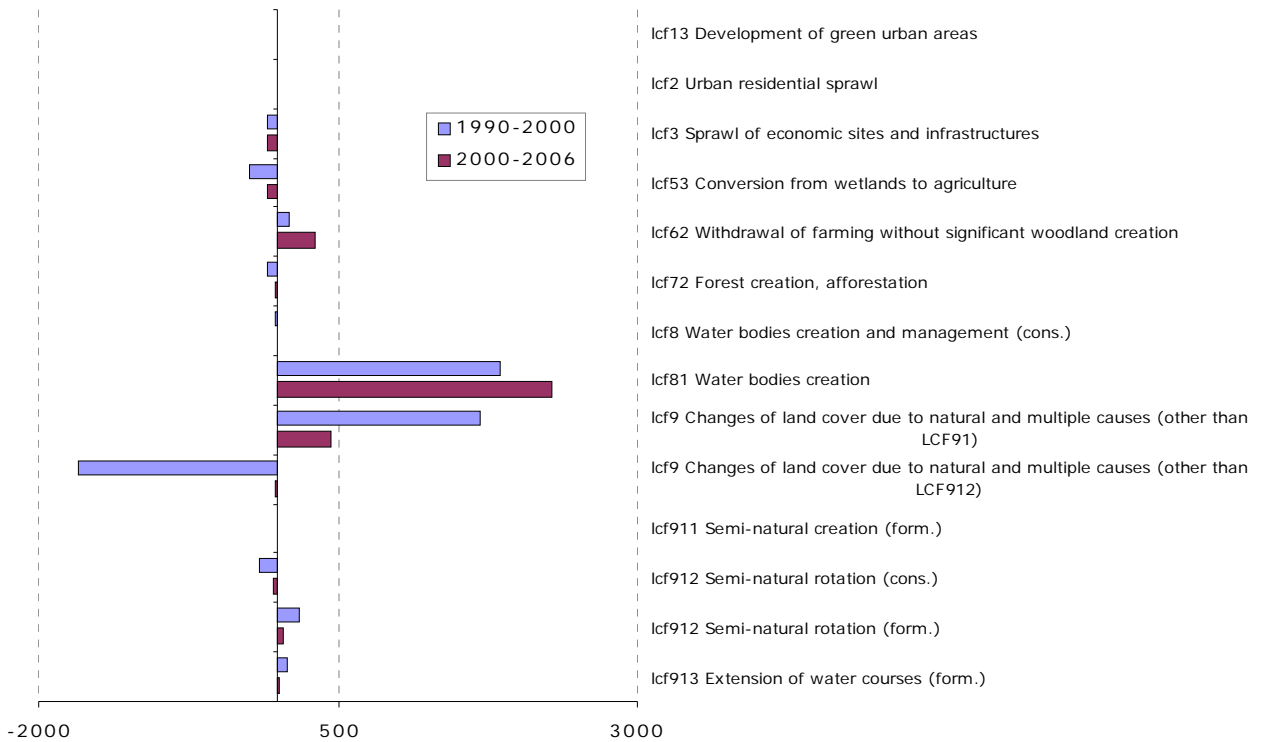
11.43. Mean annual conversions of forest & other woodland
[ha/year]



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

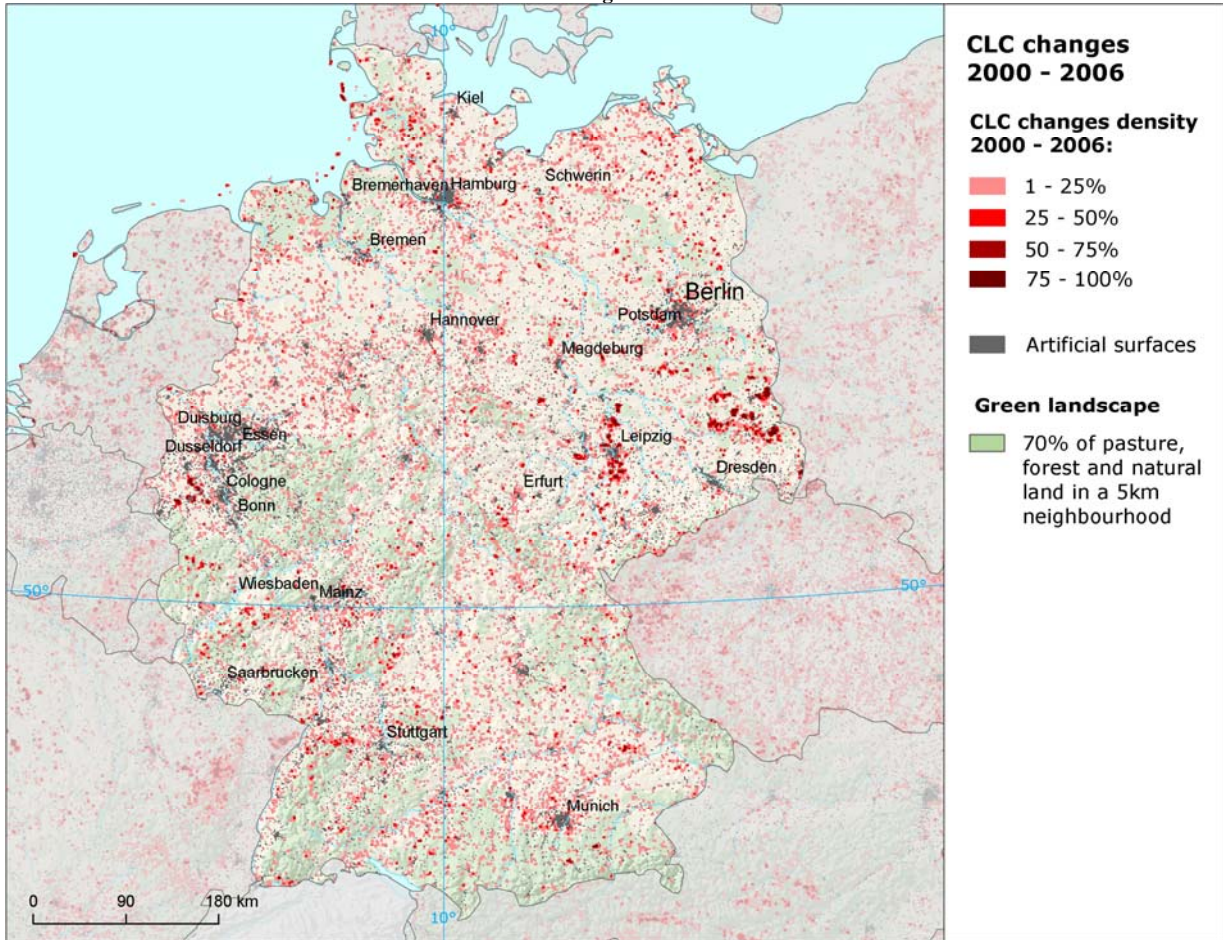


12.45. Mean annual conversions of wet lands and water LC [ha/year]

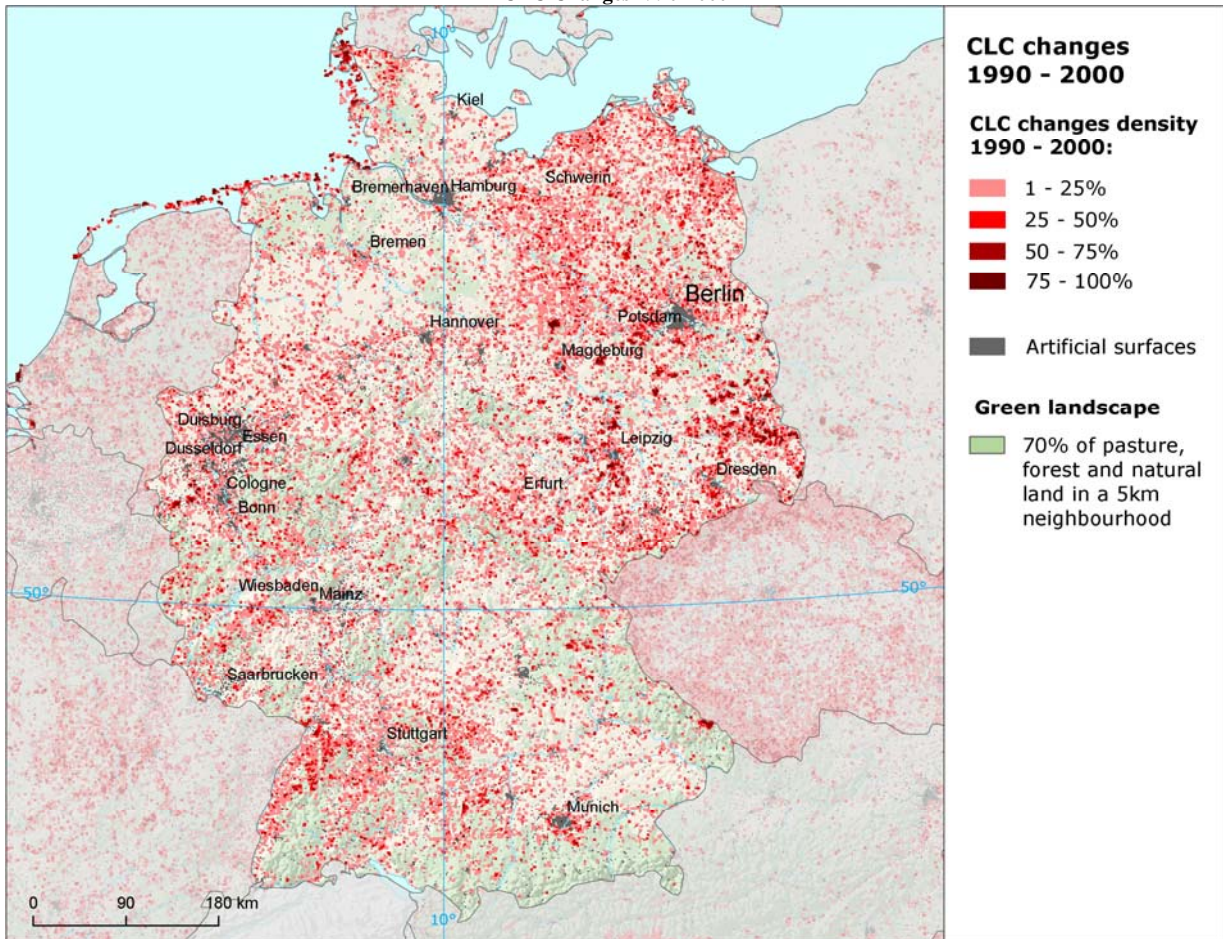


Germany

CLC Changes 2000-2006

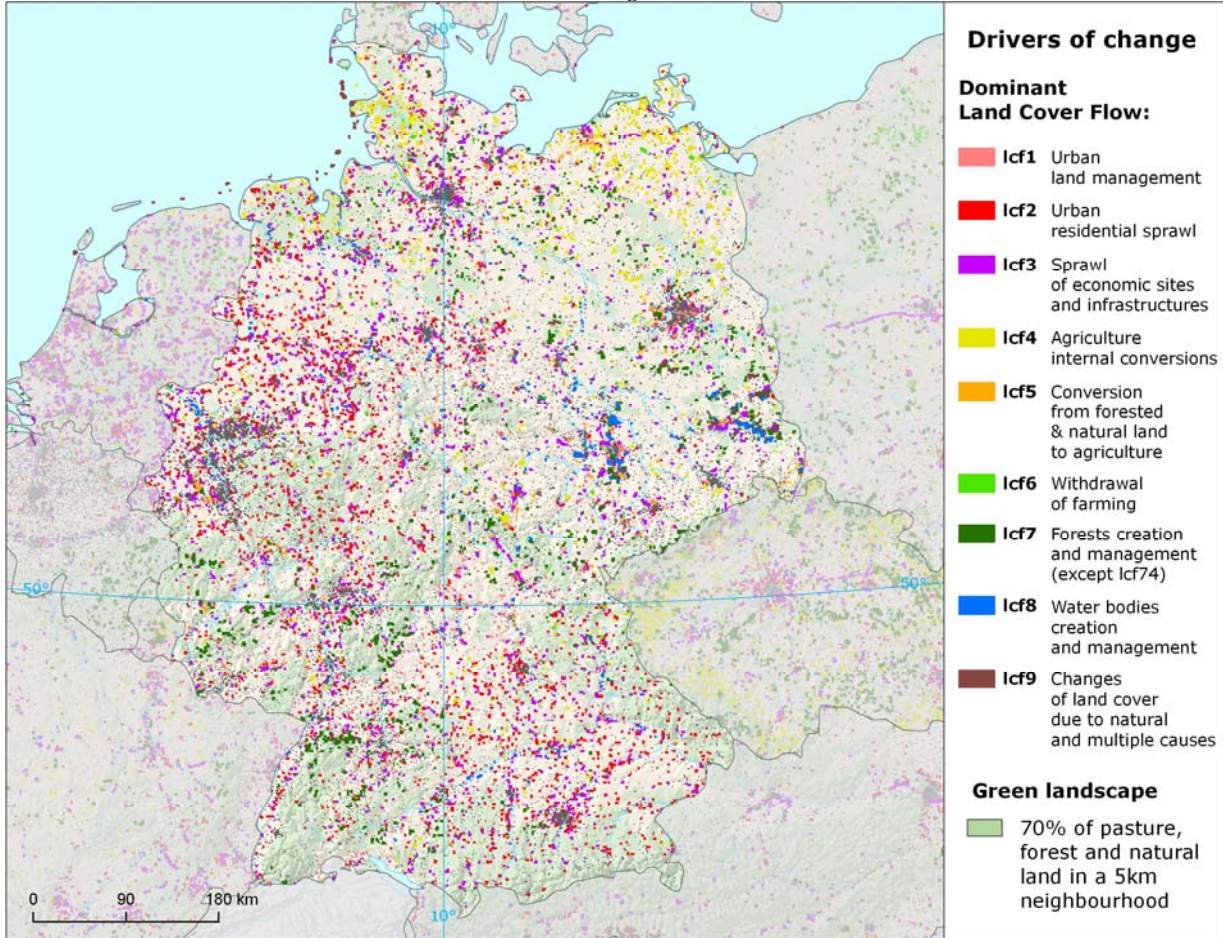


CLC Changes 1990-2000

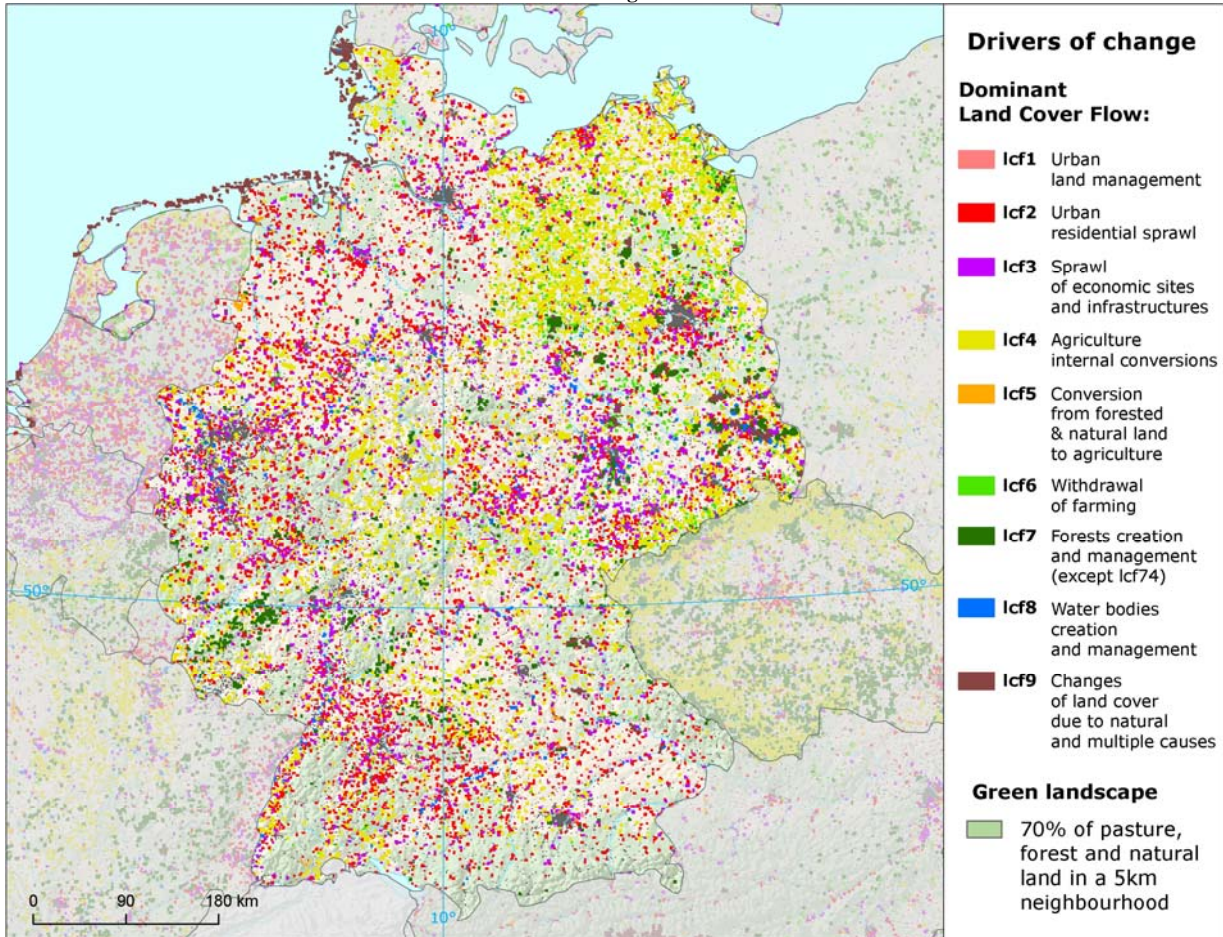


Germany

Drivers of change 2000-2006

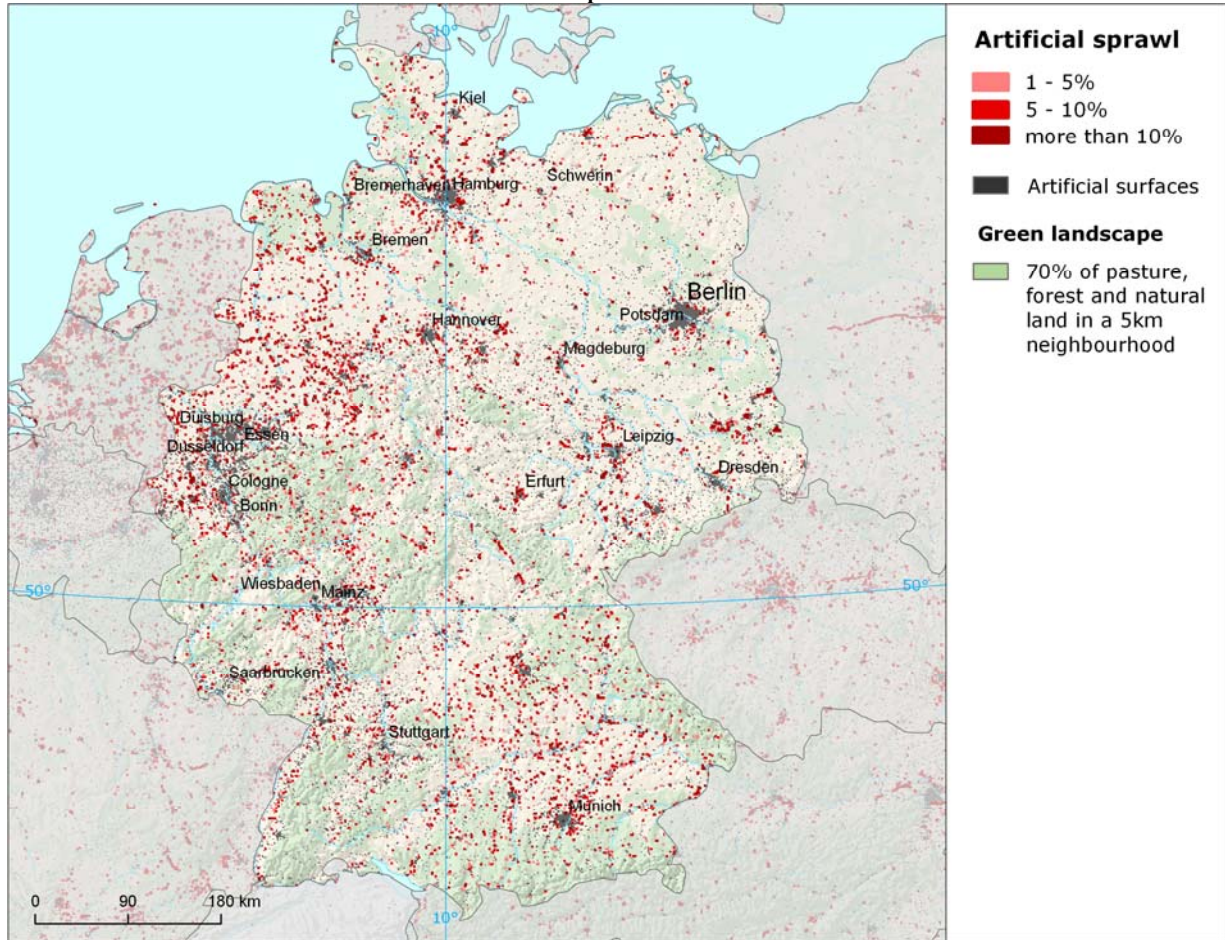


Drivers of change 1990-2000

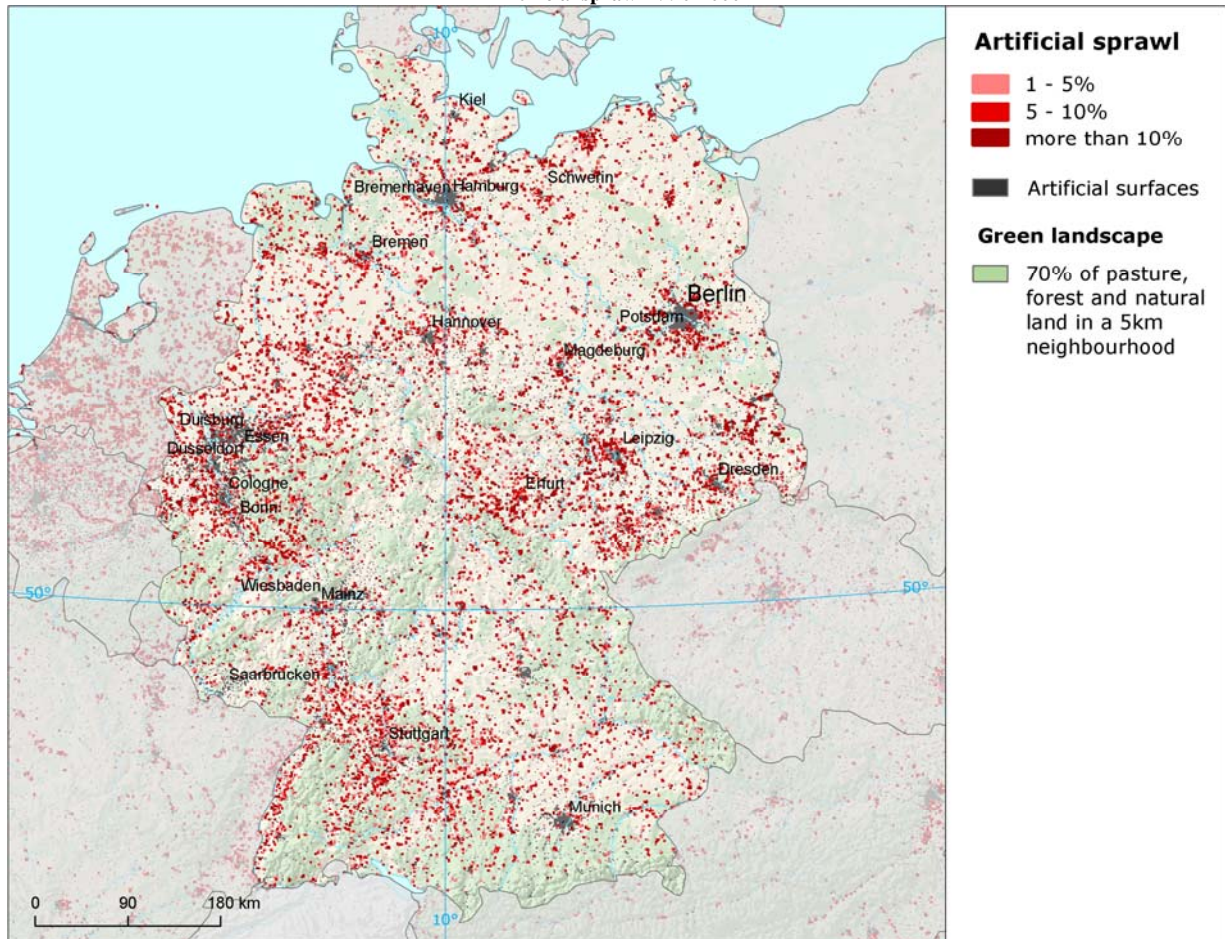


Germany

Artificial sprawl 2000-2006

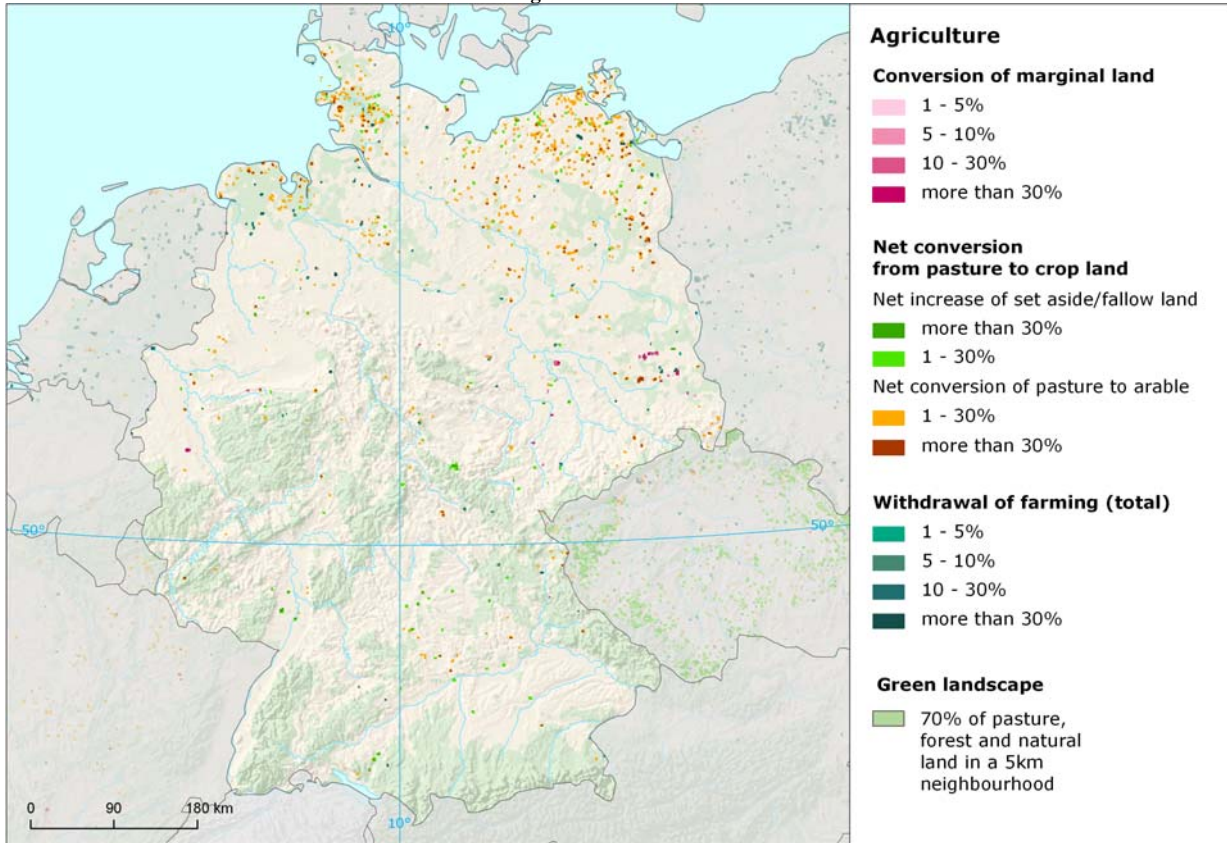


Artificial sprawl 1990-2000

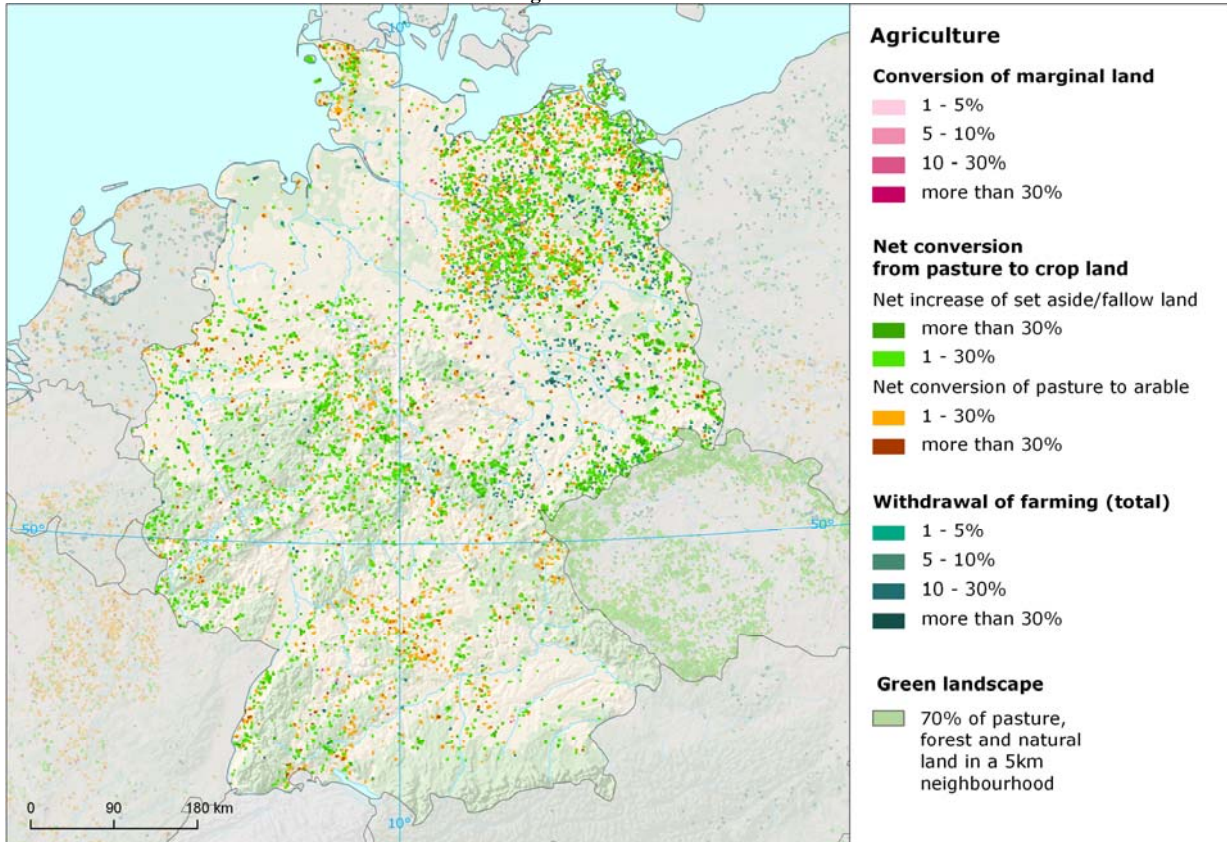


Germany

Agriculture 2000-2006

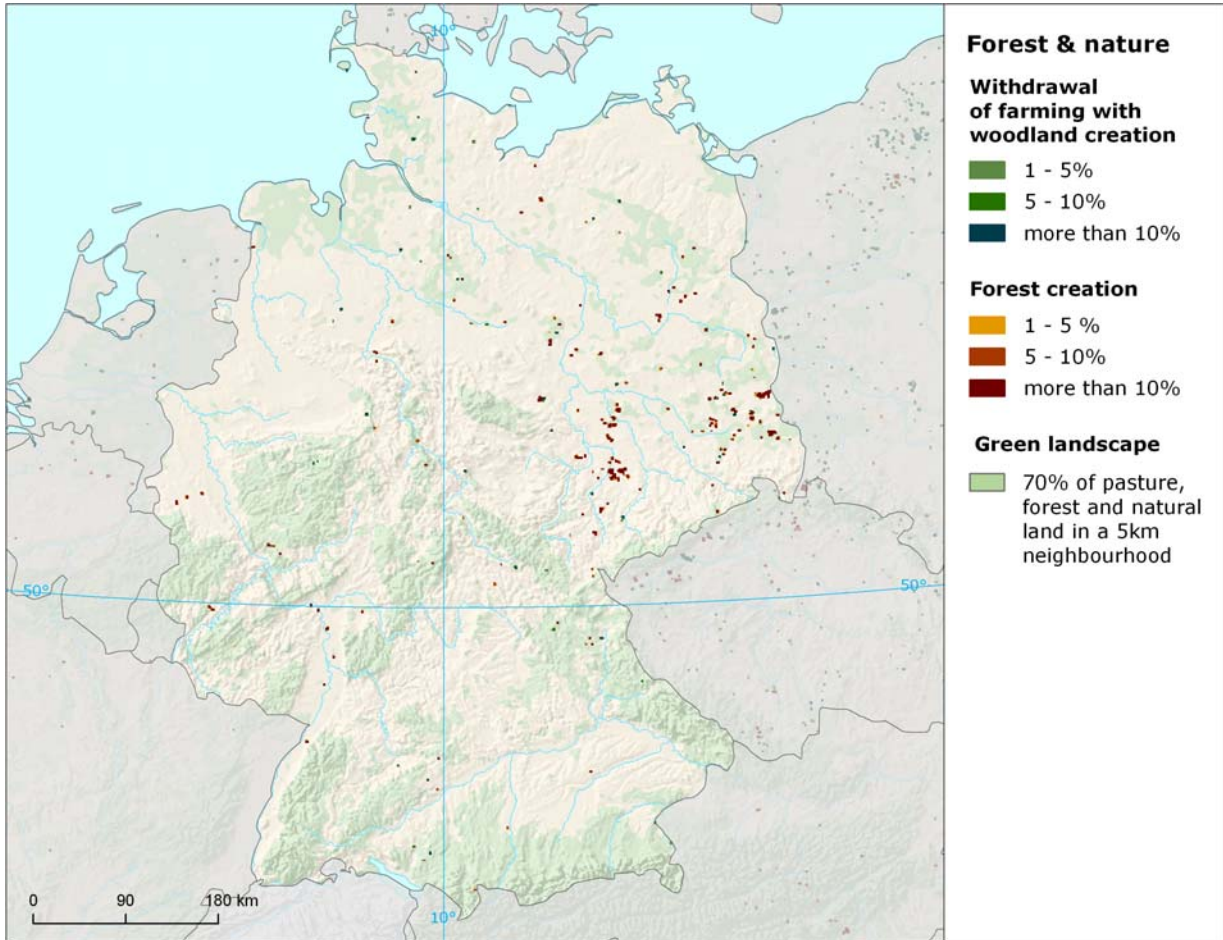


Agriculture 1990-2000



Germany

Forest and nature 2000-2006



Forest and nature 1990-2000

