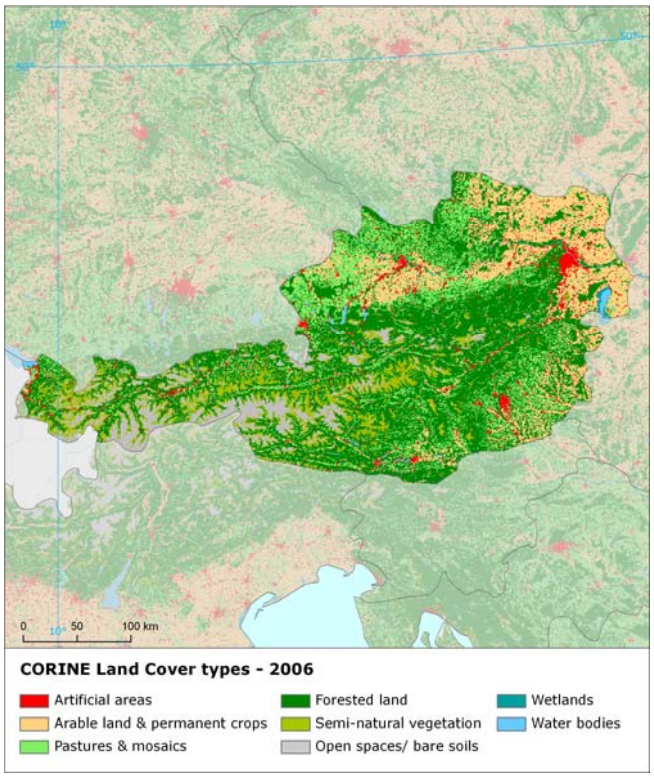
Austria

Land cover 2006

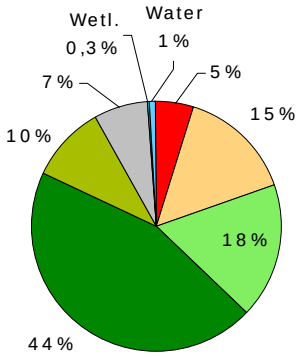
Overview of land cover & change 2000-2006

Austria is to a large extent covered by forest and natural vegetation (54% of total area). The intensity of land cover development in Austria, characterized by annual land cover change rate, has increasing tendency. However, overall dynamics of change remains very low (0.08% per year), compared to other European countries.
Similar to previous period, the main drivers of change are artificial area sprawl (driven mainly by formation of sport and leisure facilities) and changes due to natural and multiple causes (represented dominantly by decrease in permanent snow and glaciers cover (1095 ha/year) and formation of alpine bare rock areas), both with significantly accelerated intensity.
Artificial surfaces are the only land cover type with major net formation and artificial land take is also the main consumer of area of agricultural and natural surfaces.
The spatial distribution of artificial sprawl is concentrated in surroundings of the capital city Vienna and around the city Linz. Besides, areas with sprawl of economic sites and infrastructures are scattered over Alpine valleys. Residential sprawl is concentrated mostly in wider surroundings of Vienna in the eastern part of the country. The other most significant flow in Austria - decrease of Alpine glaciers cover – occurs over Alps peaks in the south-western part of the country.

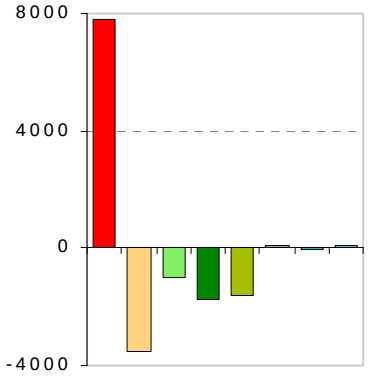
Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details.
Number of years between CLC2000-CLC2006 data for Austria: 6



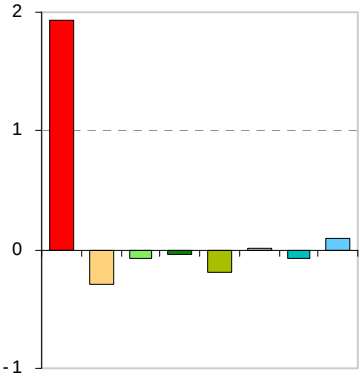
1.1. Land cover 2006 [% of total]



1.2. Net change in land cover 2000-2006 [ha]



1.3. Net change in land cover [% of initial year 2000]



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

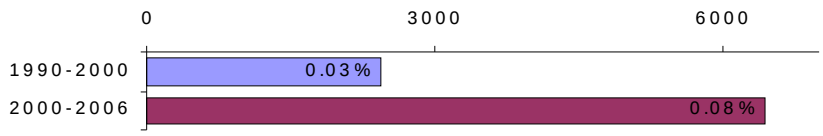
Summary balance table 2000-2006

	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	**4014**	**12369**	**14851**	**37411**	**8441**	**5869**	**229**	**683**	**83867**
Consumption of initial LC	12	38	15	233	21	66	0	0	386
Formation of new LC	90	3	5	216	5	67	0	1	386
Net Formation of LC	**78**	**-35**	**-10**	**-17**	**-16**	**1**	**0**	**1**	**0**
Net formation as % of initial year	*1.9*	*-0.3*	*-0.1*	*0.0*	*-0.2*	*0.0*	*-0.1*	*0.1*	
Total turnover of LC	**103**	**42**	**20**	**449**	**26**	**132**	**0**	**2**	**773**
Total turnover as % of initial year	*2.6*	*0.3*	*0.1*	*1.2*	*0.3*	*2.3*	*0.2*	*0.2*	*0.9*
Land cover 2006	**4092**	**12334**	**14841**	**37394**	**8425**	**5869**	**229**	**684**	**83867**

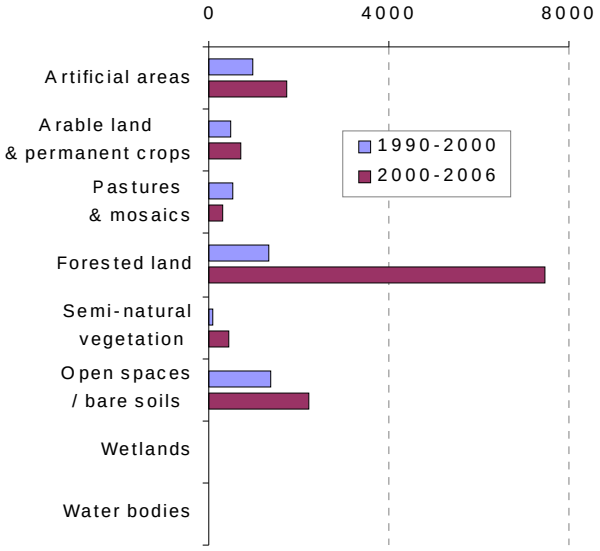
Austria

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

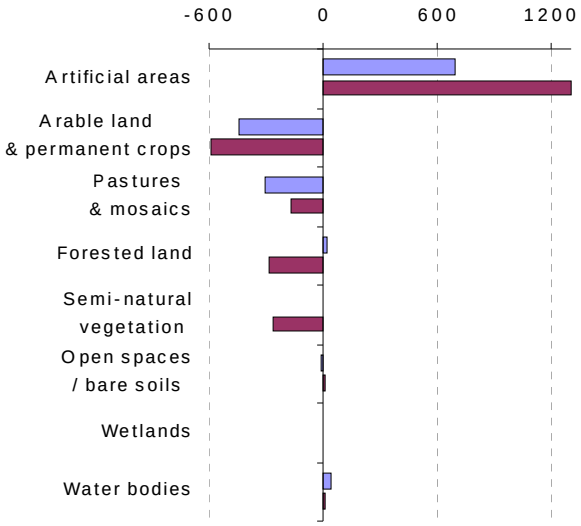
2.4. Annual land cover change [ha/year, % of total area]



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

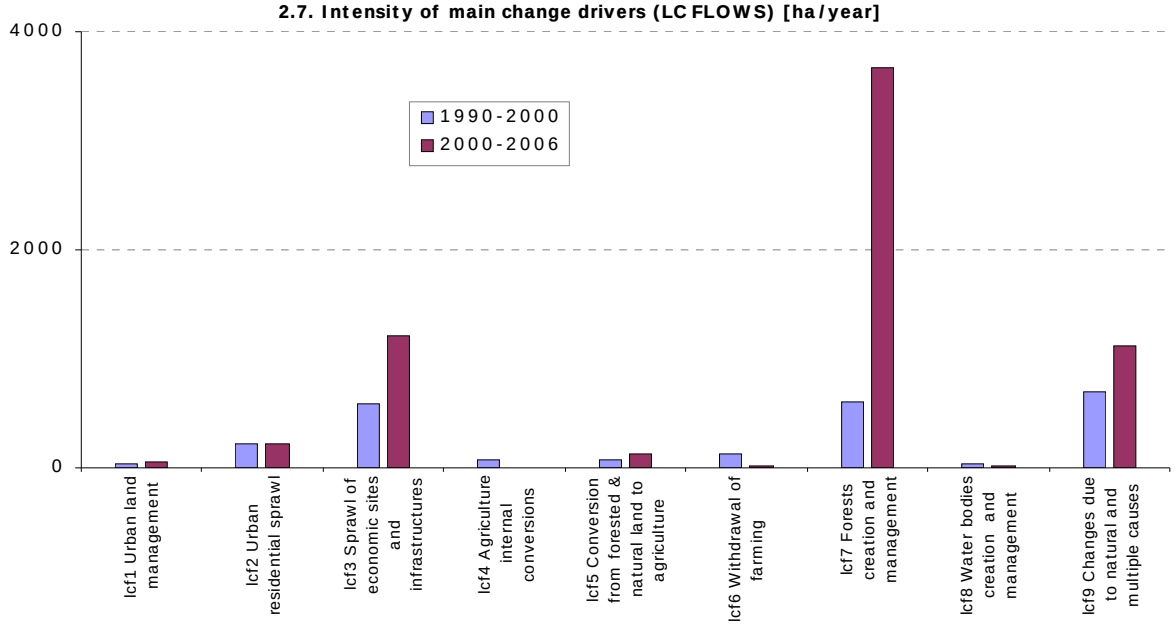


2.6. Net annual change of LC types [ha/year]



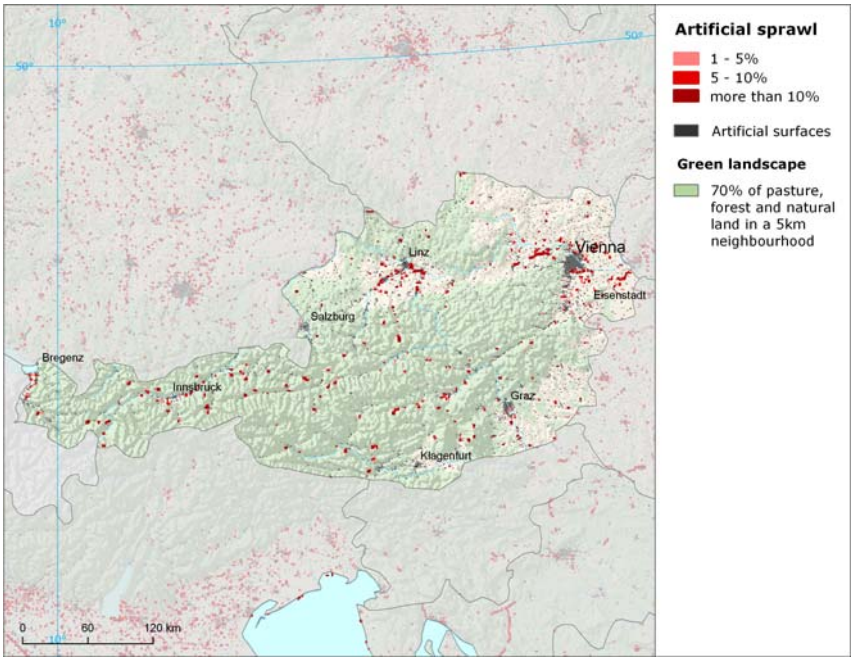
Summary trend figures	1990-2000	2000-2006
Annual land cover change [ha/year]	**2443**	**6441**
Annual land cover change as % of initial year	**0.03%**	**0.08%**
Land uptake by artificial development as mean annual change [ha/year]	796	1443
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	698	868
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-79	13
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	-41	-1
Forest & other woodland net formation as mean annual change [ha/year]	20	-288
Dry semi-natural land cover net formation as mean annual change [ha/year]	-9	-255
Wetlands & water bodies net formation as mean annual change [ha/year]	36	7

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

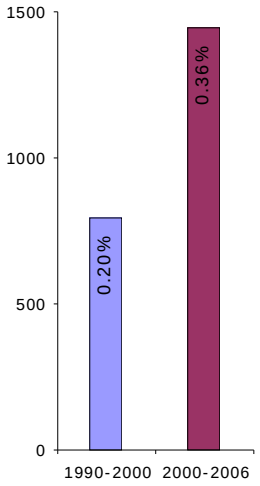


Austria

Artificial areas



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

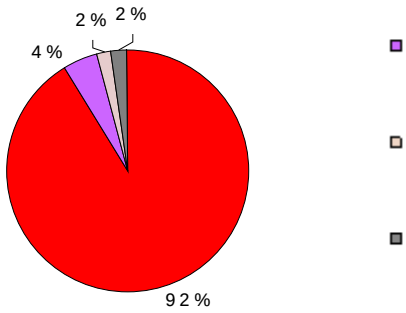


Sport, leisure and recreation sites expansion

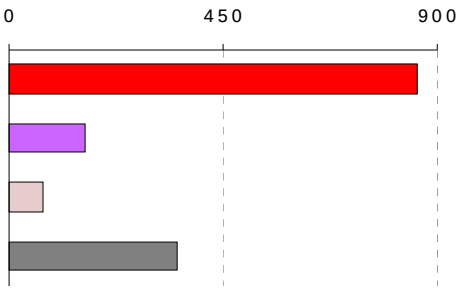
Artificial land uptake over Austrian landscape doubled compared to previous period. The main driver of this change is the sprawl of sport and leisure facilities, which has been also doubled after in 2000-2006 period. Besides, land take in Austria is driven also by residential sprawl and by accelerated sprawls of mines/quarrying sites, commercial/industrial sites and construction (which was insignificant in period 1990-2000).

Artificial land take occurs mainly on expense of agricultural areas with prevailing share of arable/crop, followed by natural grasslands and coniferous forests (in case of sport and leisure facilities expansion created mostly over natural areas). On the other hand, there are abandoned mineral extraction sites uptaken back by agriculture or natural woodland.

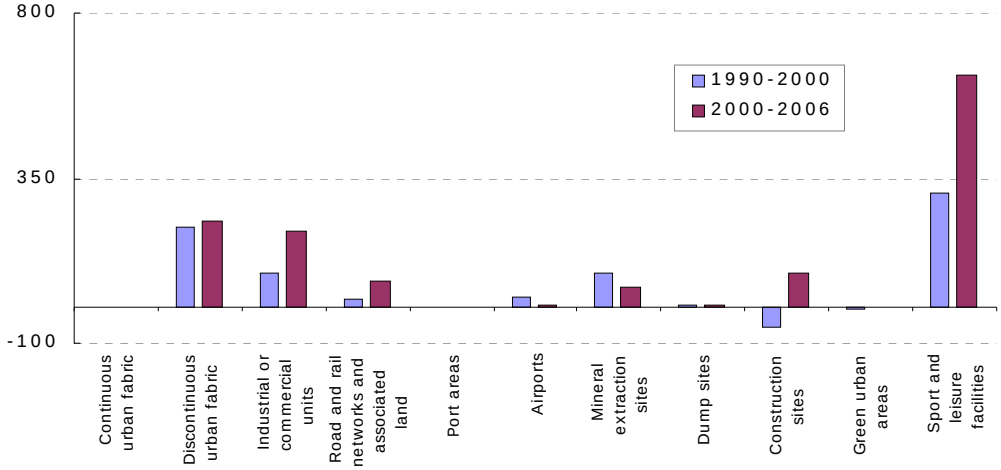
3.9. Artificial surfaces 2006 [% of total area]



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

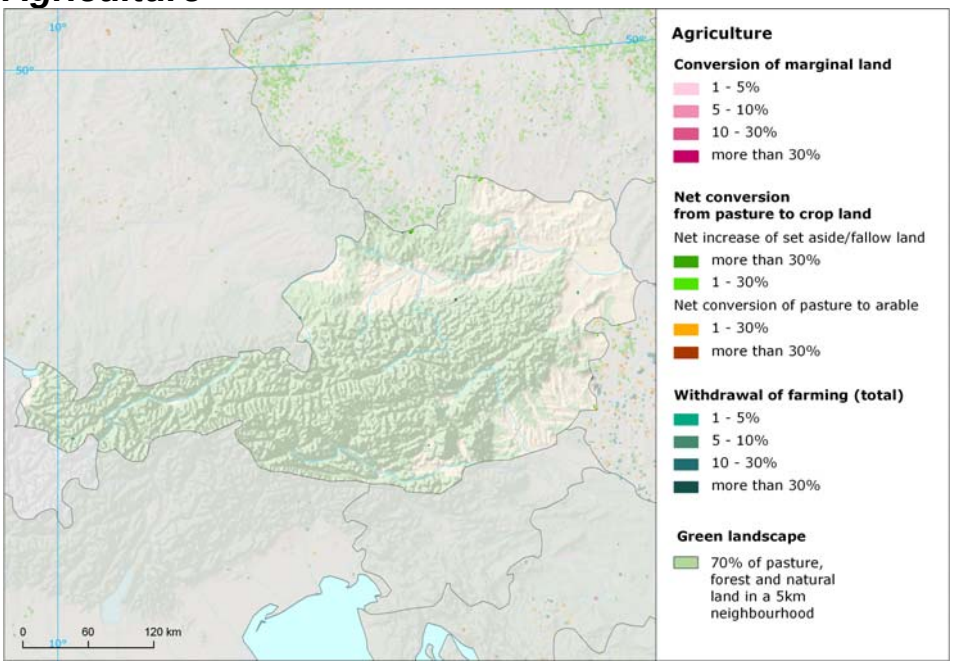


3.11. Mean annual artificial change by class [ha/year]



Austria

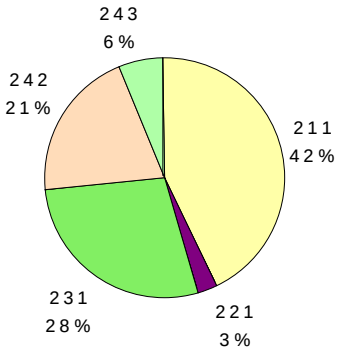
Agriculture

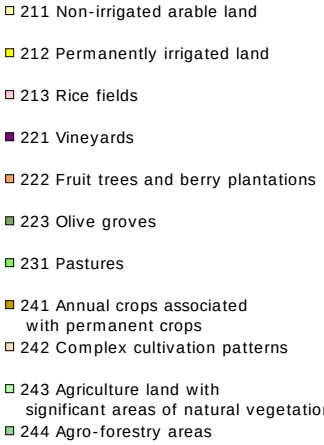


Agricultural land uptake by artificial sprawl

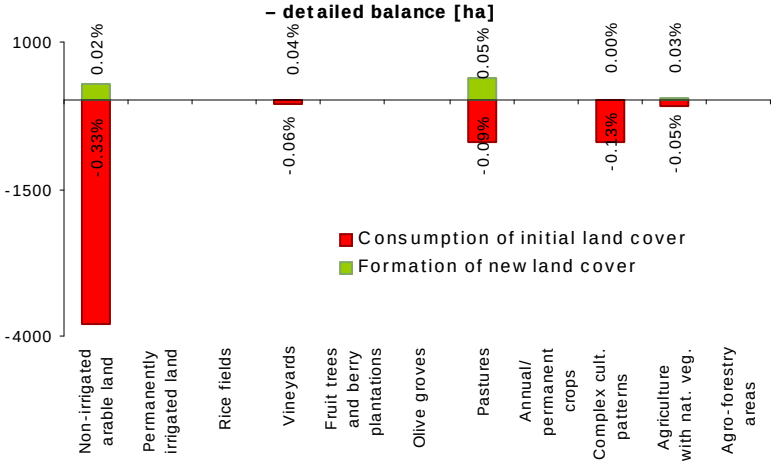
Development of agricultural areas in Austria (which are composed mainly by arable land and pastures, with relatively high share of vineyards) is characterized by prevailing consumption (with highest share of arable land), driven mostly by artificial land uptake. In fact, there is no agricultural class with positive balance of net change. At the same time, there occurs also formation of new agricultural land, mostly through conversion from former mineral extraction sites to pastures or arable land. Intensity of internal agricultural changes in Austria is very low and even more decreased compared to previous period.

4.12. Agricultural areas 2006 [% of total area]

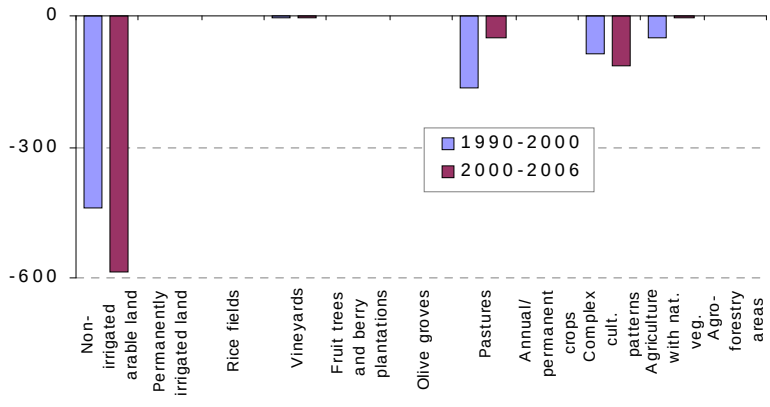




4.13. Development of agricultural areas 2000-2006 – detailed balance [ha]

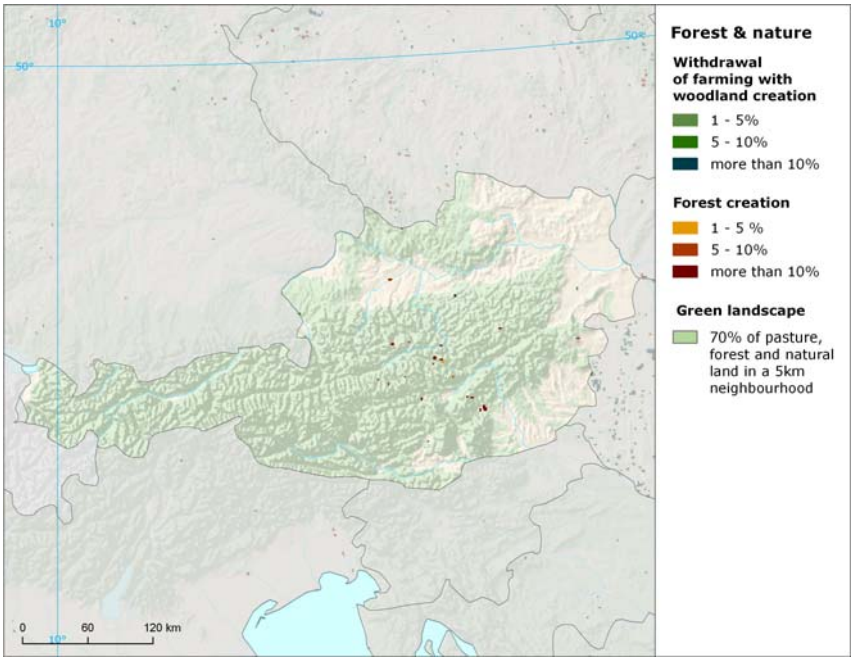


4.14. Mean annual agricultural change by class [ha/year]

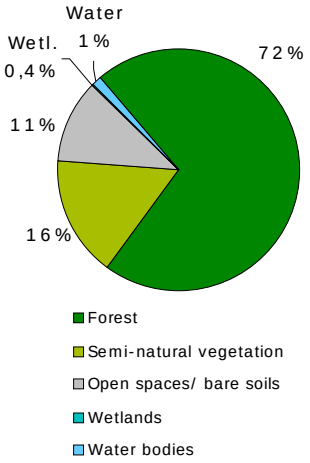


Austria

Forest & nature



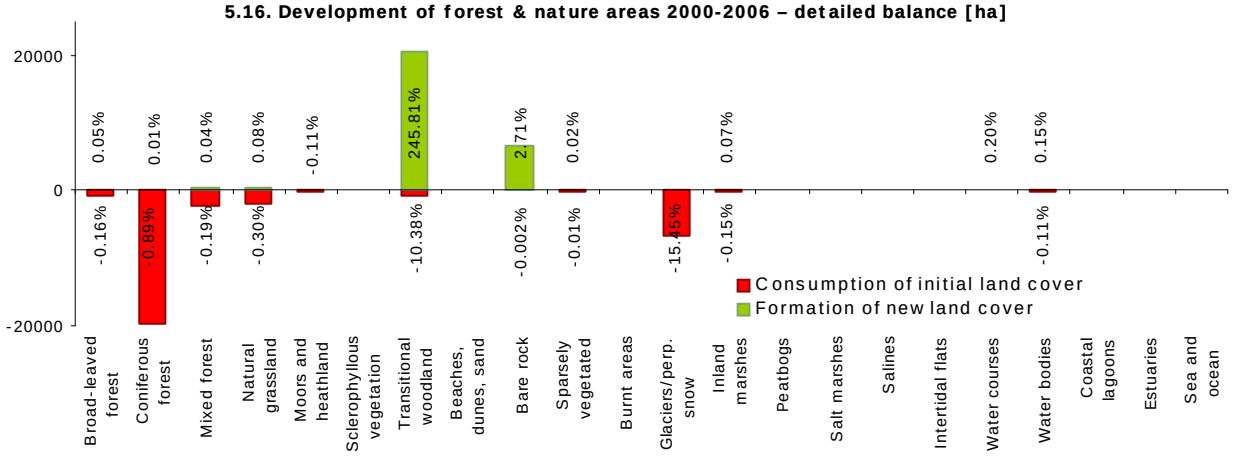
5.15. Forest & nature areas 2006 [% of total area]



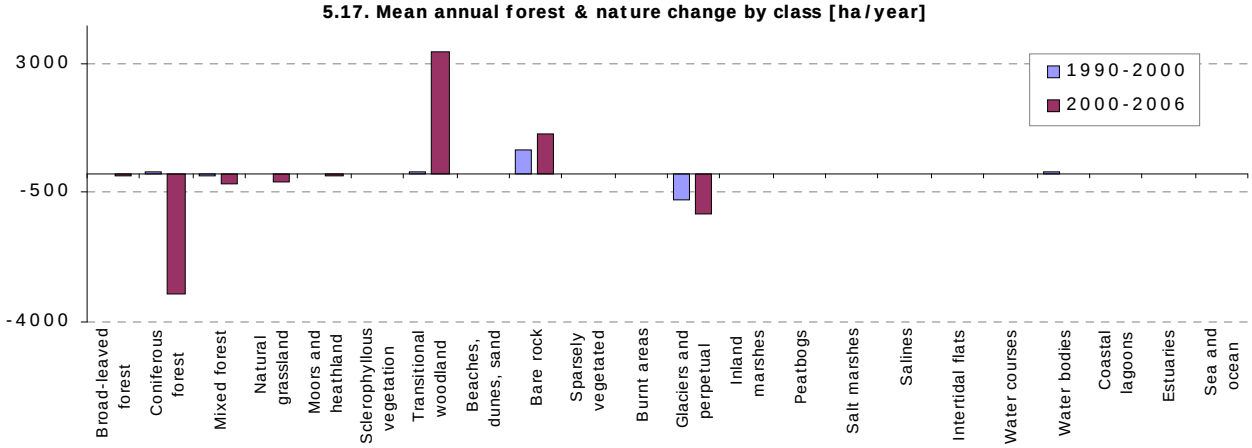
Decrease of alpine glaciers area accelerates

The most significant change of natural land cover in Austria is decrease of alpine glaciers on Alps peaks. This phenomenon was observed already during previous period, however, its intensity accelerated even more in period 2000-2006 (-15,5%).
Development of forested areas is characterized by acceleration of internal changes with prevailing share of recent felling and transitions of standing forest into transitional woodland.
External changes of natural land are represented mostly by increased artificial uptake of natural surfaces, which is driven by formation of sport and leisure facilities over natural grasslands and coniferous forest areas. Formation of natural land occurs mainly through conversion of former mineral extraction sites into transitional woodland.

5.16. Development of forest & nature areas 2000-2006 – detailed balance [ha]



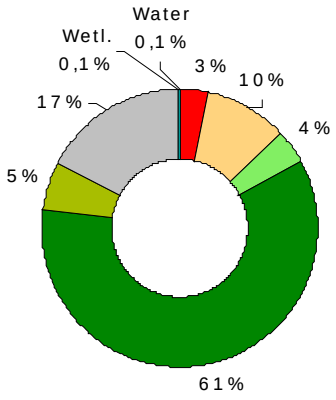
5.17. Mean annual forest & nature change by class [ha/year]



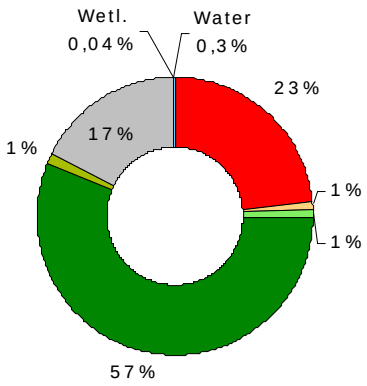
Annex: Land cover flows and trends

Land cover flows 2000-2006

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

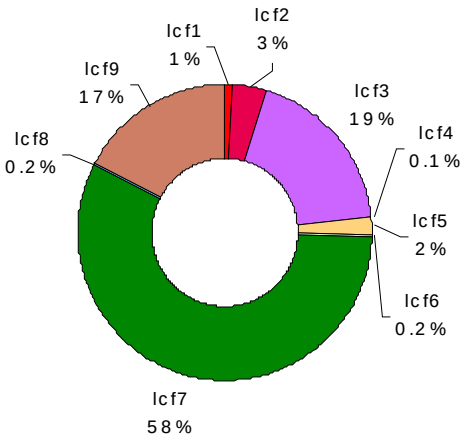


6.19. Formation of land cover 2000-2006 [% of total change area]



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]

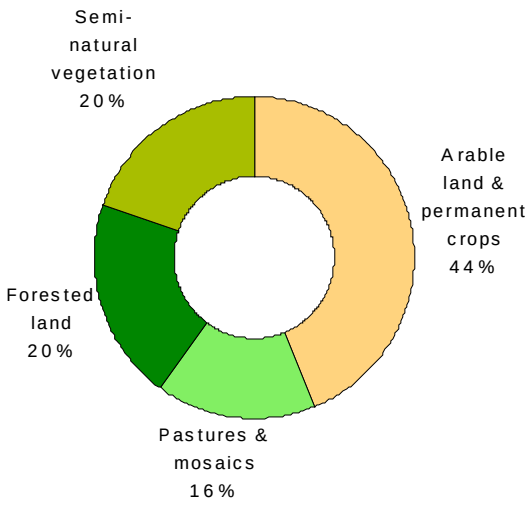


- lcf1 Urban land management
- lcf2 Urban residential sprawl
- lcf3 Sprawl of economic sites and infrastructures
- lcf4 Agriculture internal conversions
- lcf5 Conversion from forested & natural land to agriculture
- lcf6 Withdrawal of farming
- lcf7 Forests creation and management
- lcf8 Water bodies creation and management
- lcf9 Changes due to natural and multiple causes

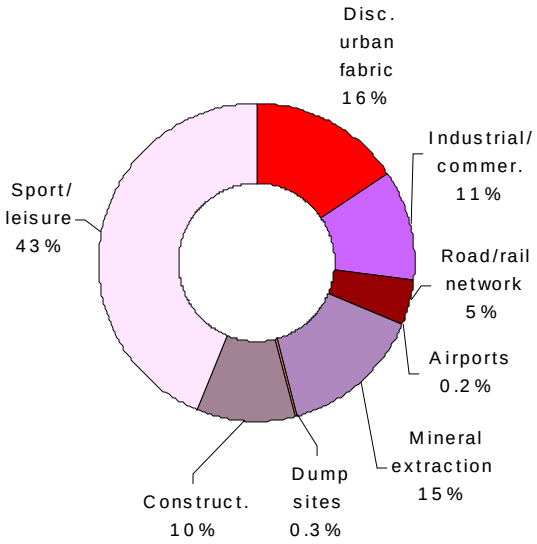
Austria

Artificial areas

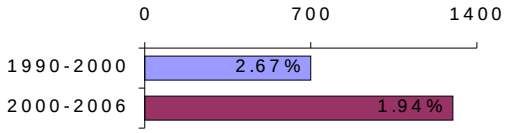
7.21. Consumption by artificial land take 2000-2006 [% of total]



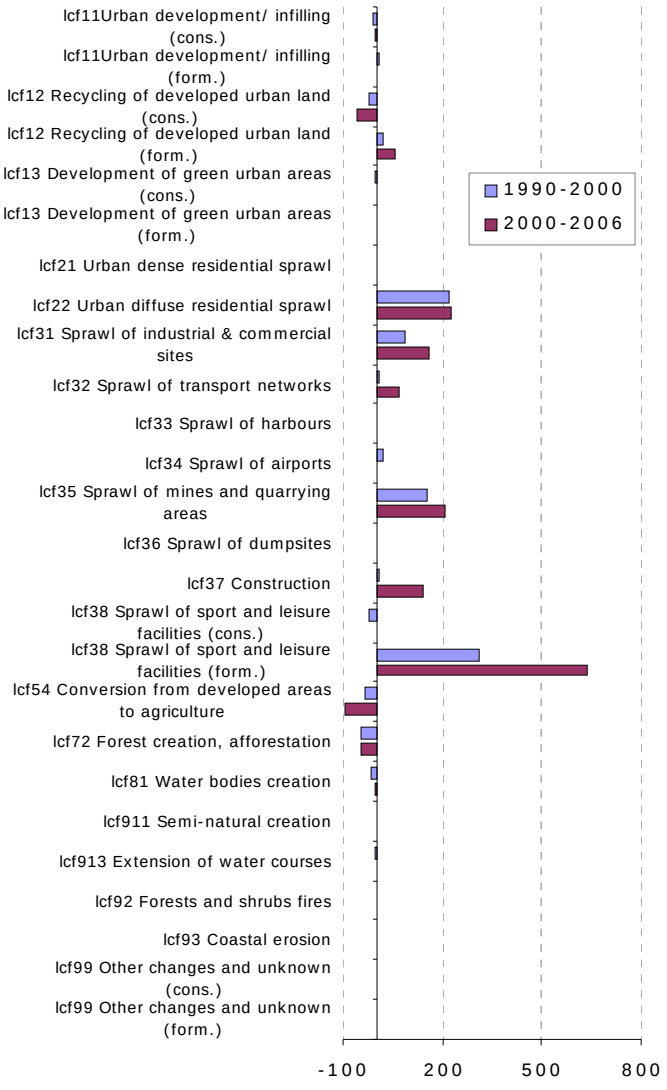
7.22. Formation by artificial land take 2000-2006 [% of total]



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



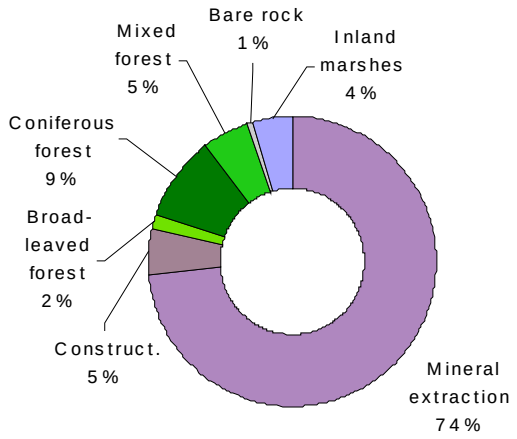
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



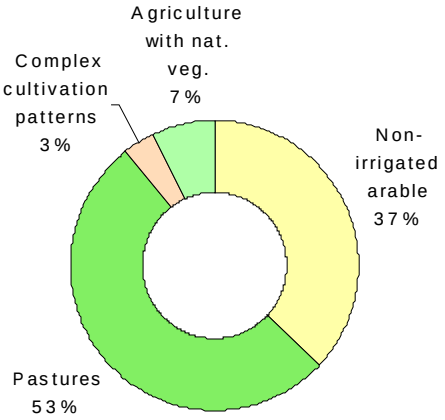
Austria

Agriculture

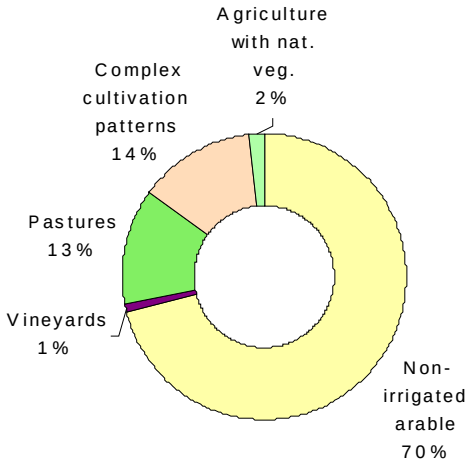
8.25. LC consumed by agriculture 2000-2006 [% of total]



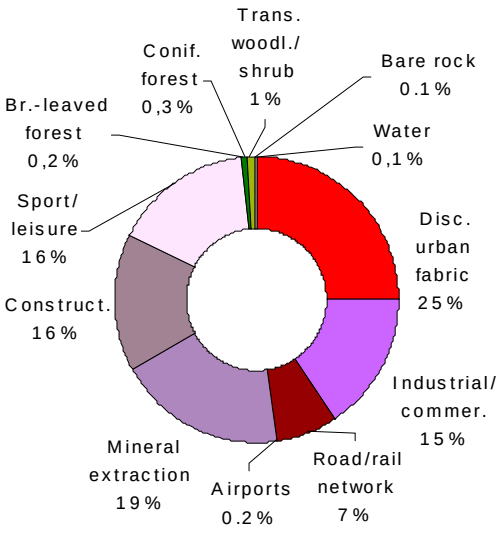
8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]



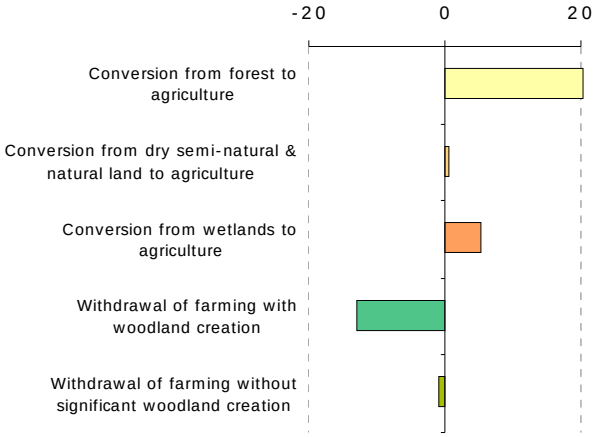
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



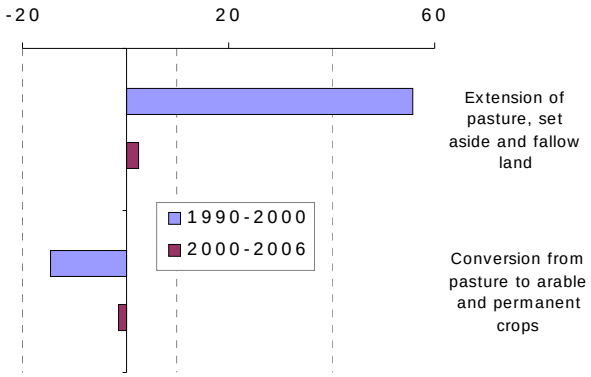
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



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

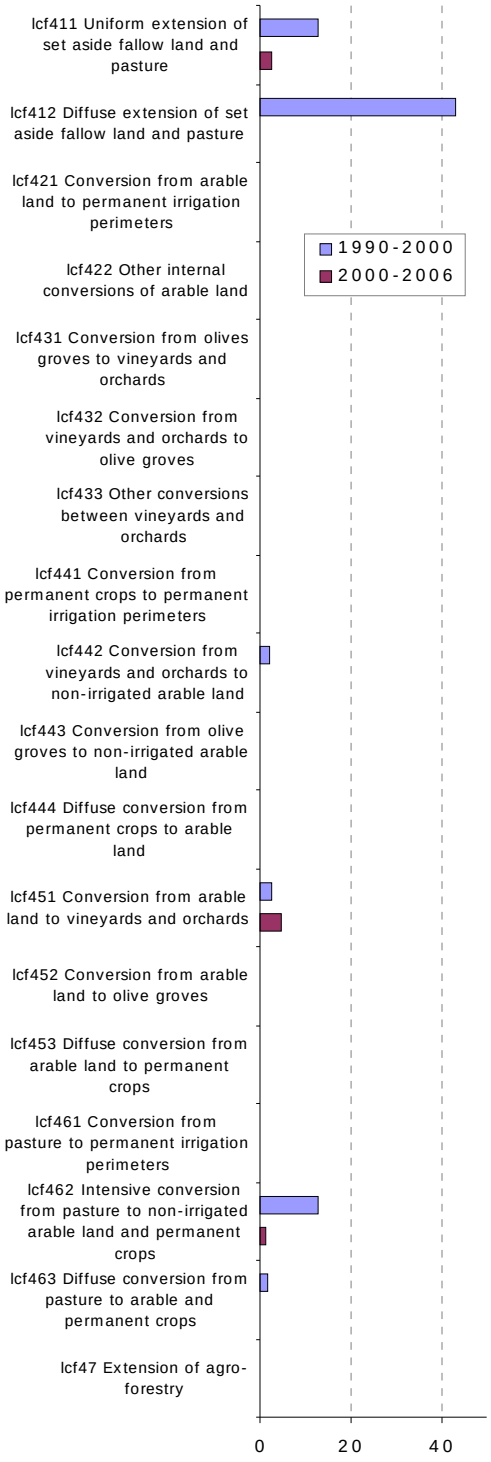


8.30. Mean annual conversion between arable land and pasture [ha/year]

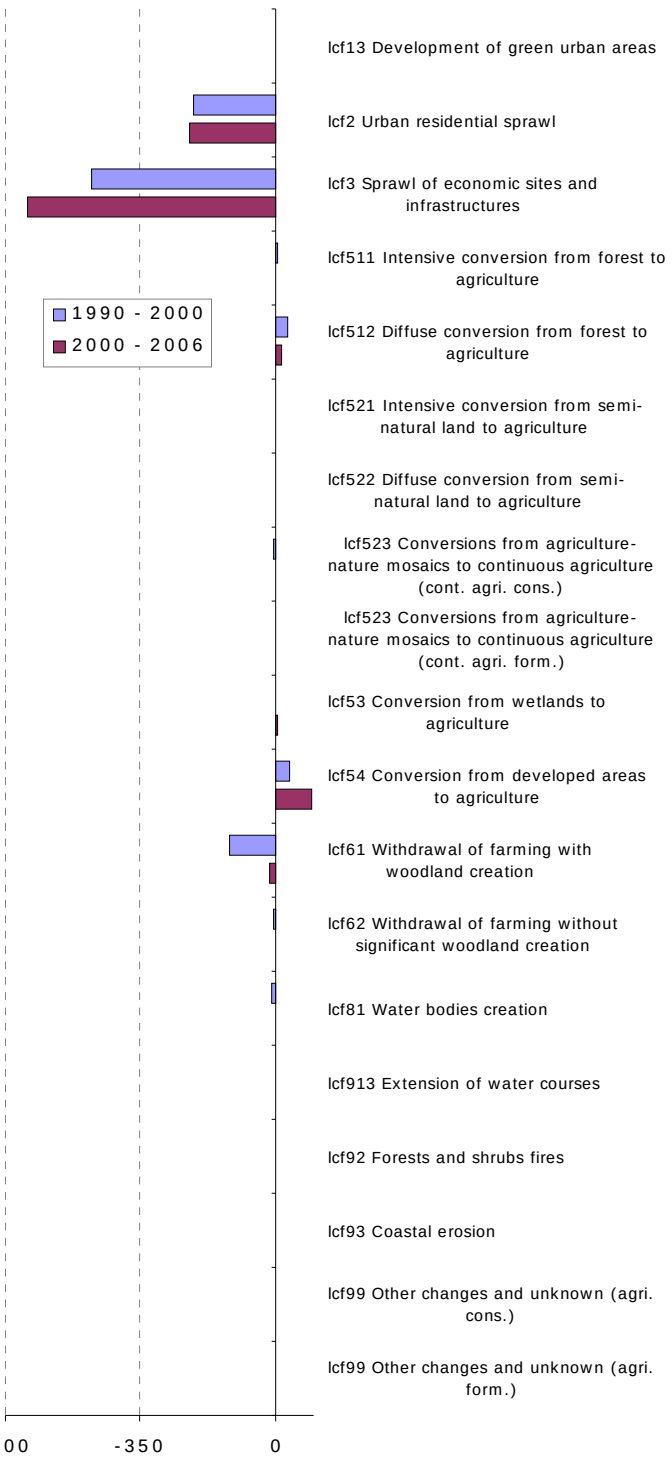


Austria

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



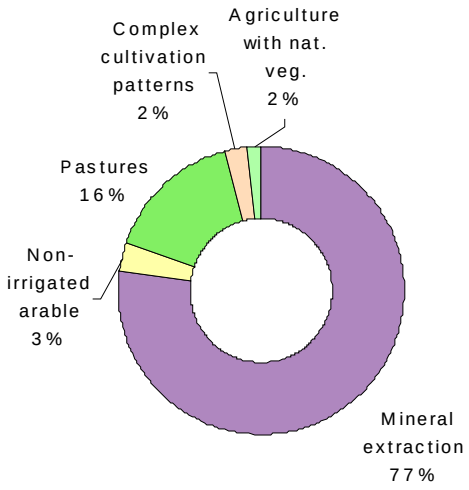
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



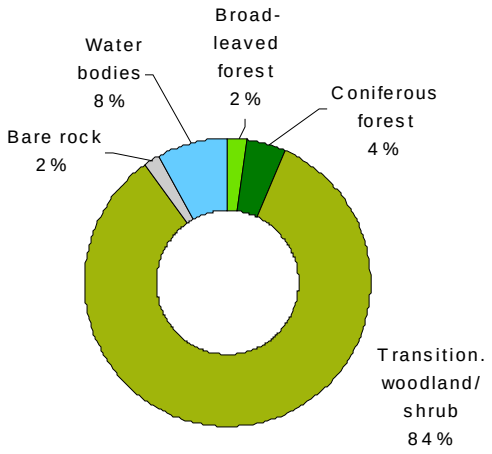
Austria

Forest & nature

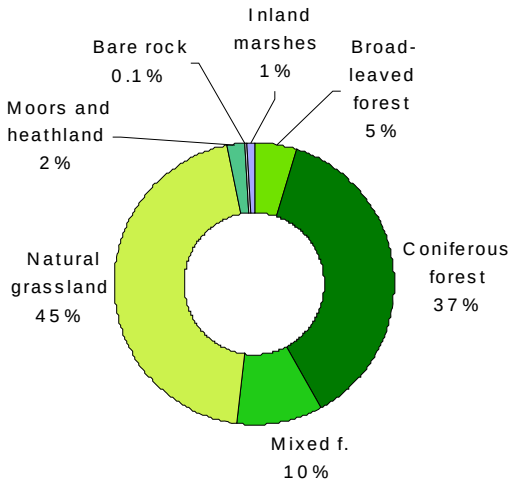
10.33. LC consumed by forest & nature 2000-2006 [% of total]



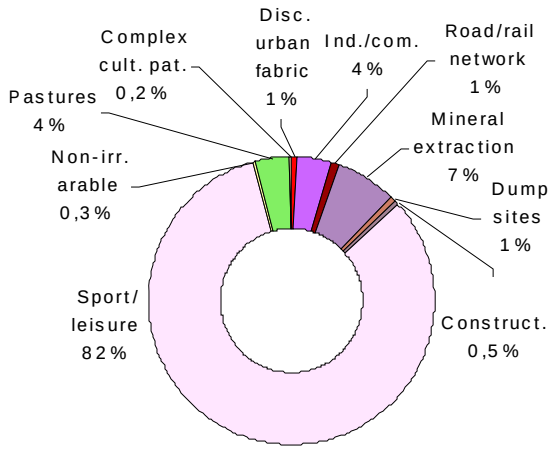
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



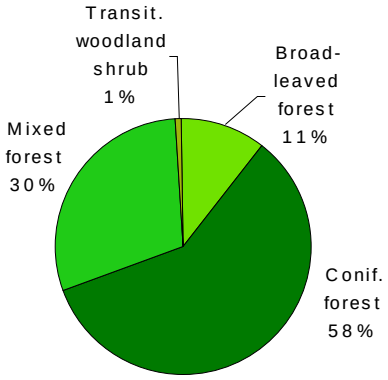
10.35. Consumption of forest & nature land by non-forest /nature 2000-2006 [% of total]



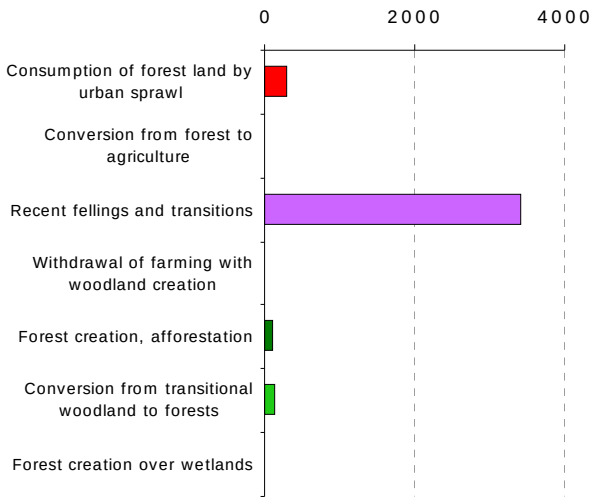
10.36. Formation of non-forest /nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]

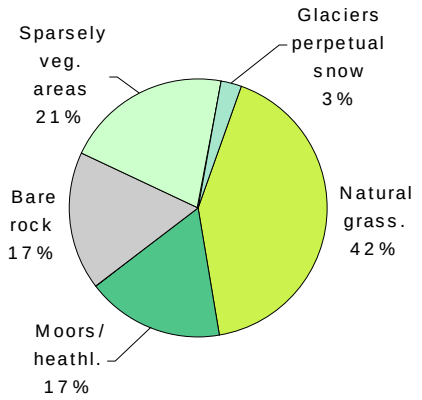


10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]

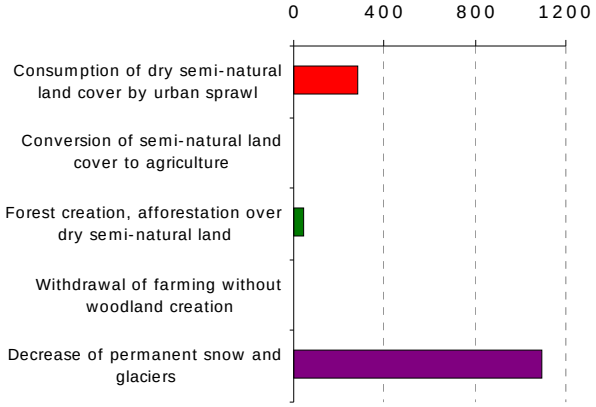


Austria

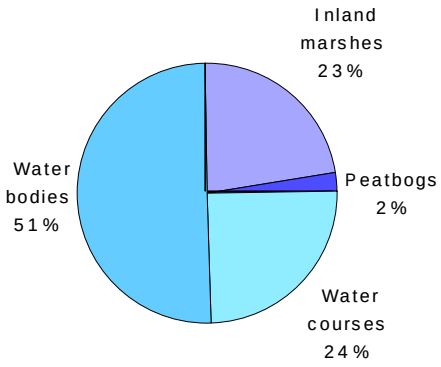
11.39. Dry semi-natural areas 2006 [% of total area]



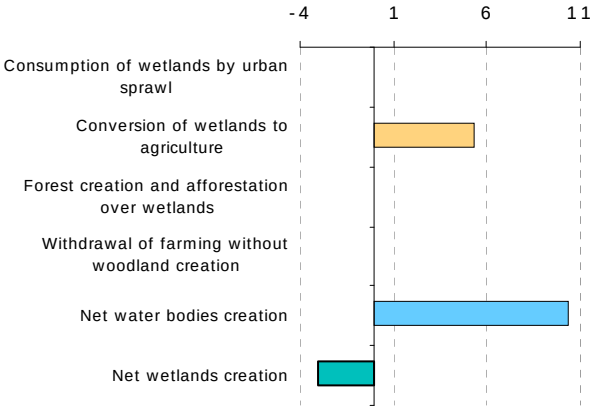
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



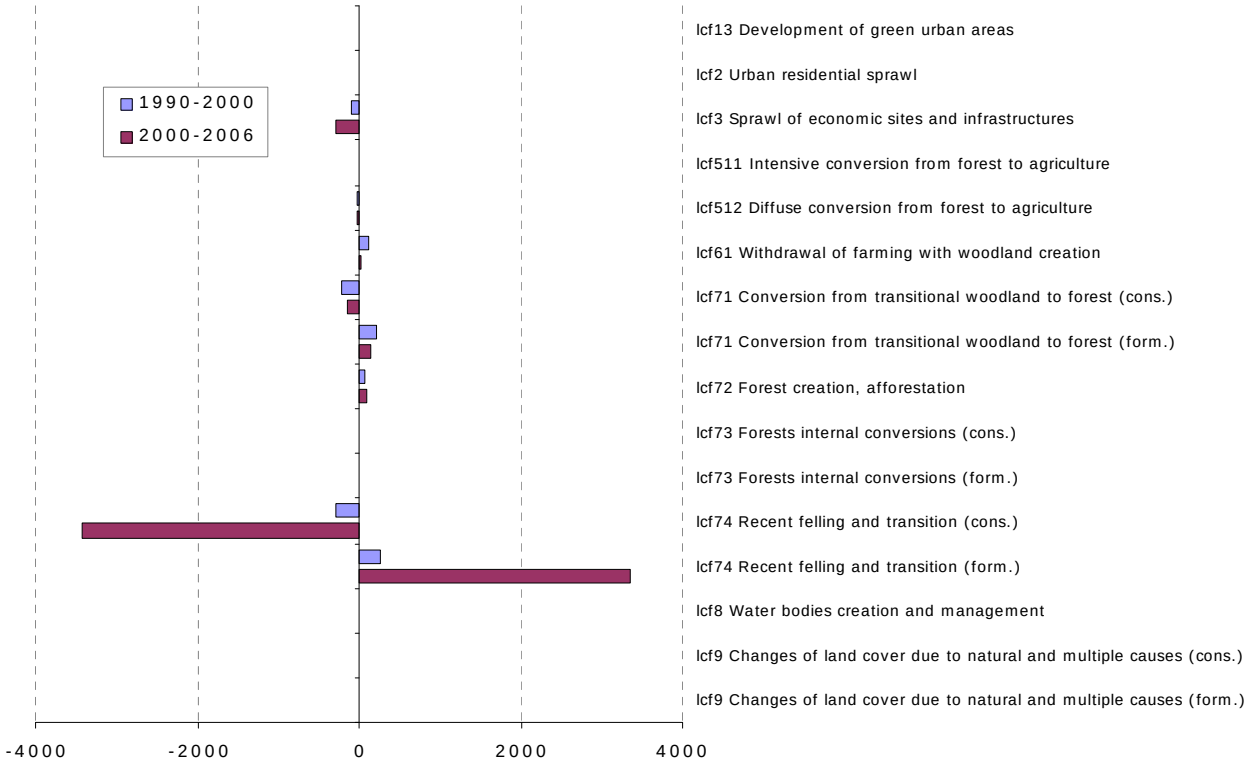
11.41. Wetlands & water 2006 [% of total area]



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

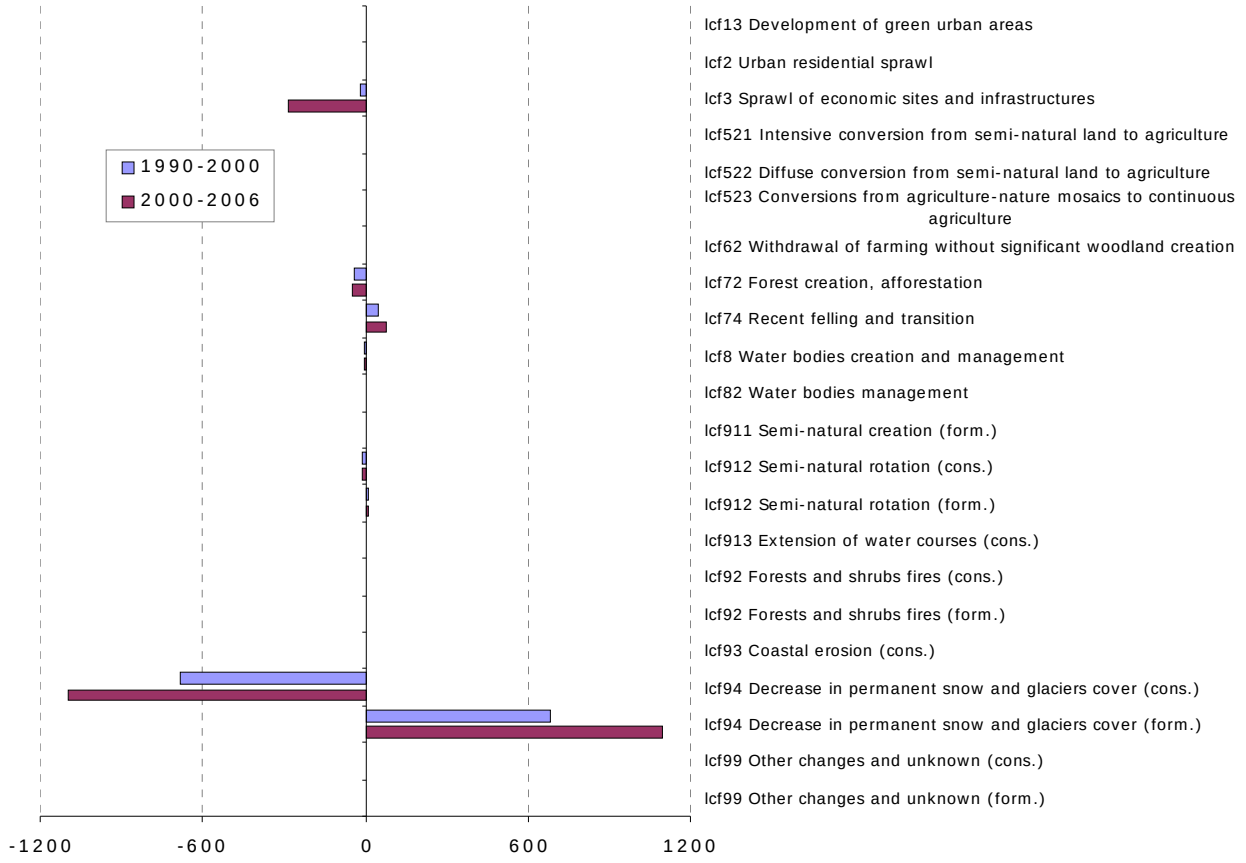


11.43. Mean annual conversions of forest & other woodland [ha/year]

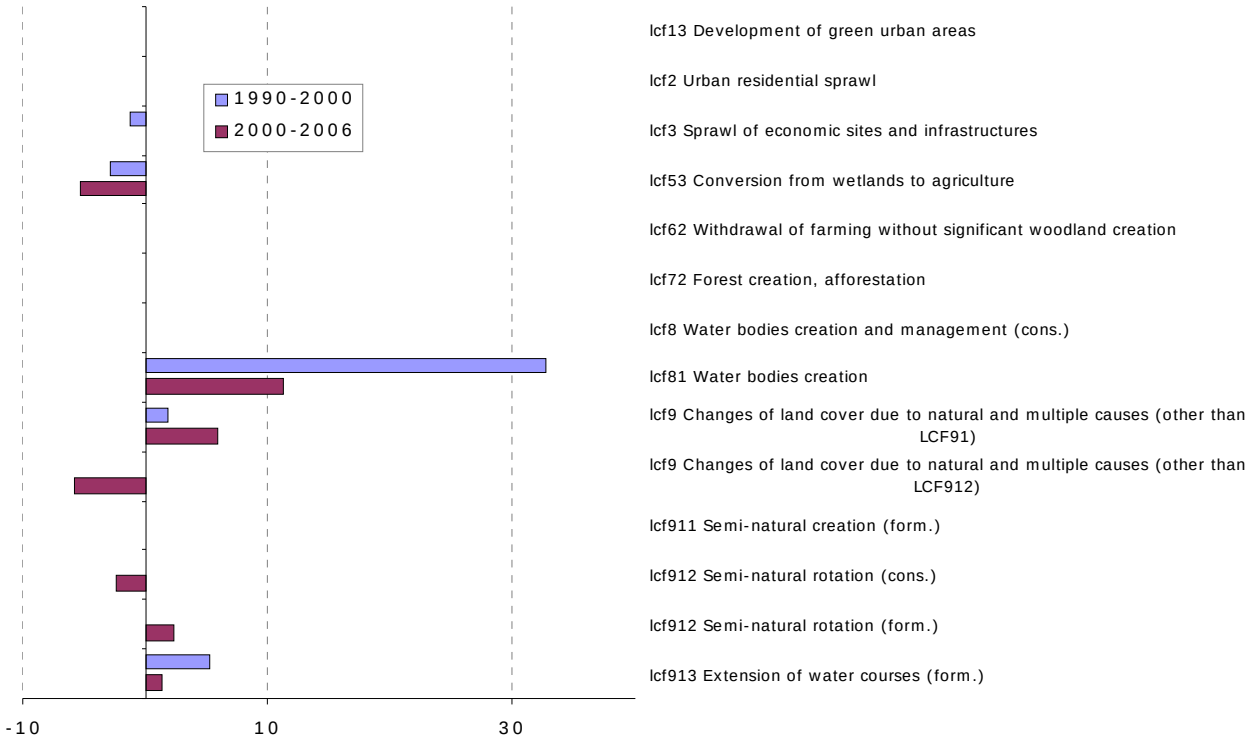


Austria

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

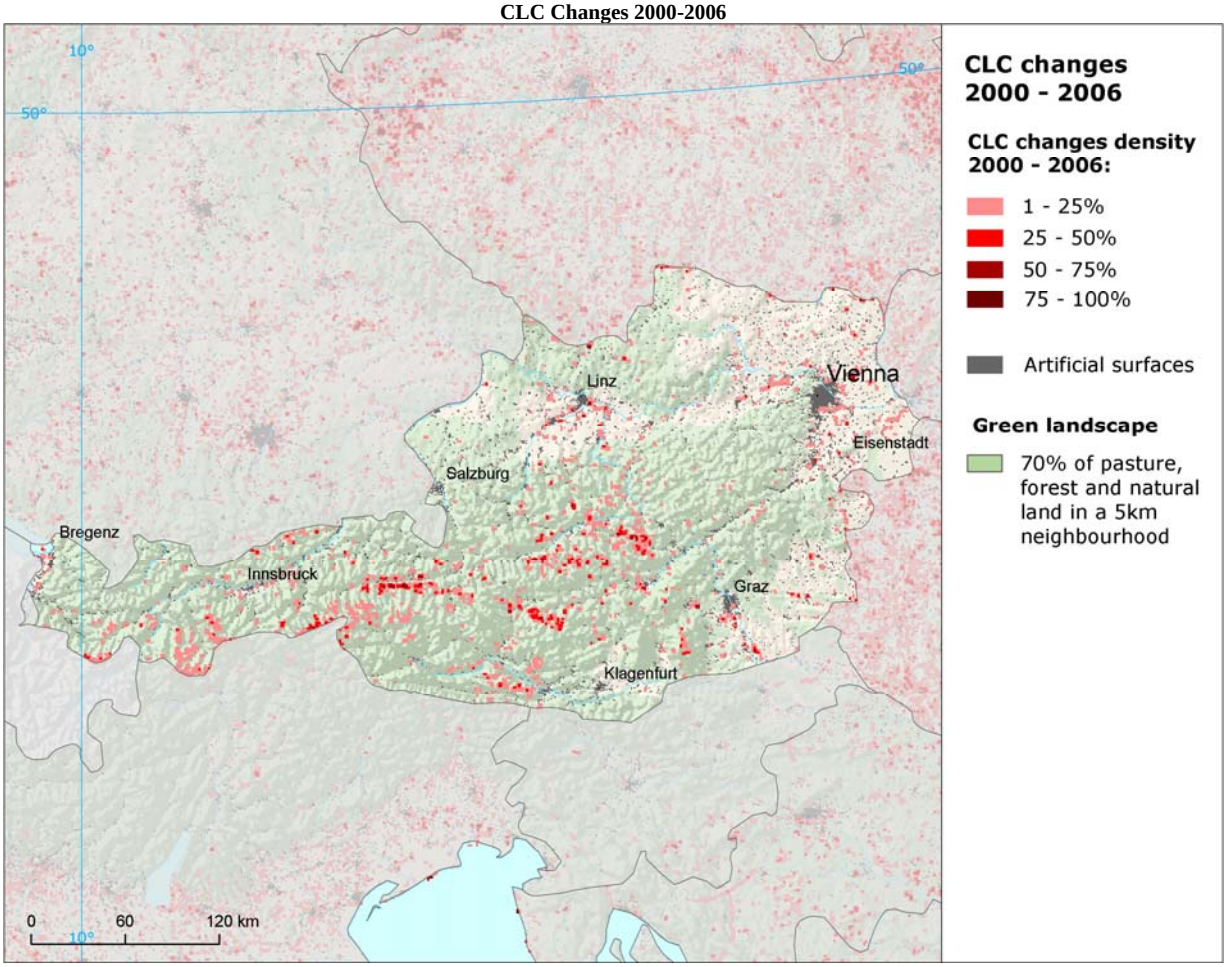


12.45. Mean annual conversions of wetlands and water LC [ha/year]

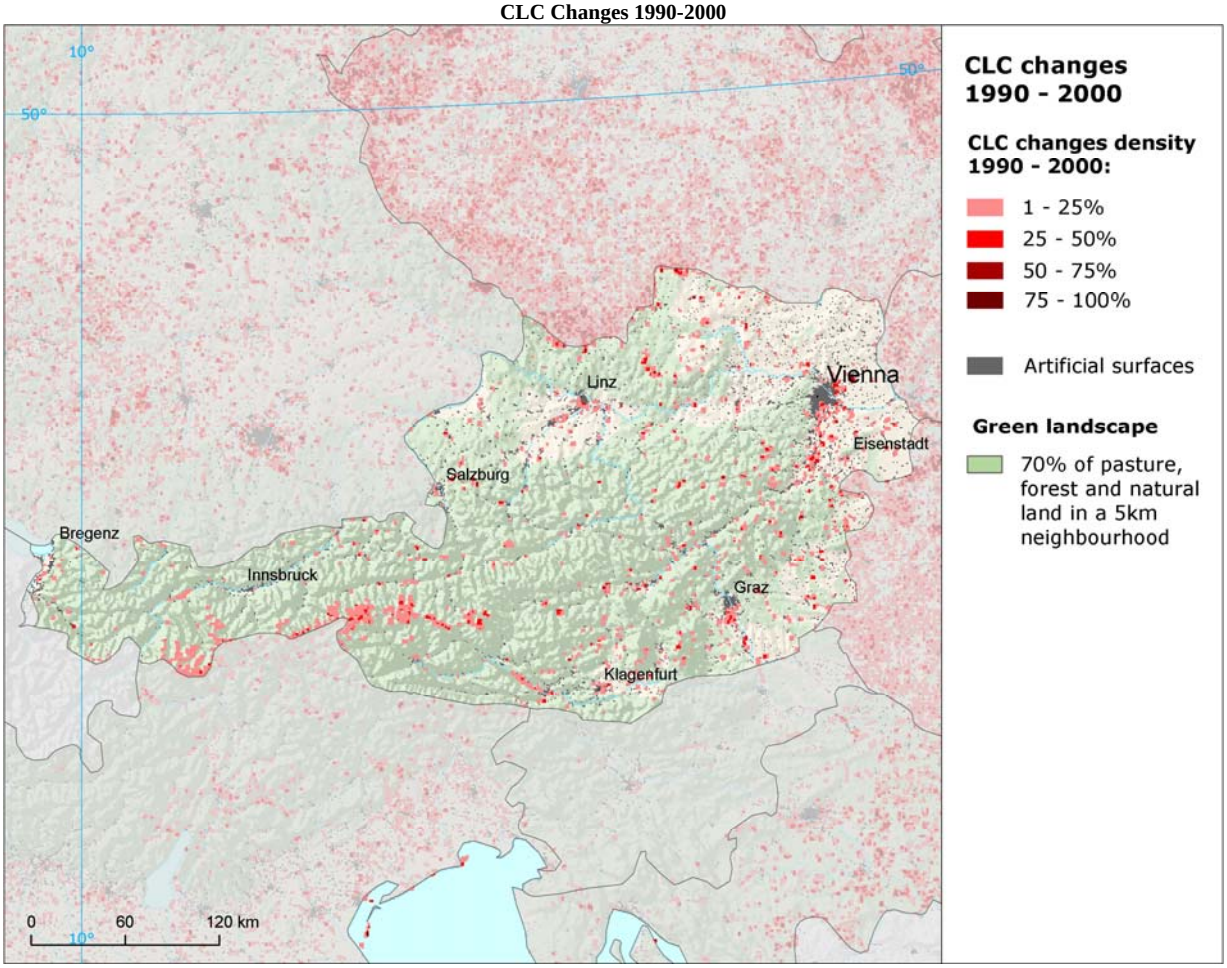


Austria

CLC Changes 2000-2006

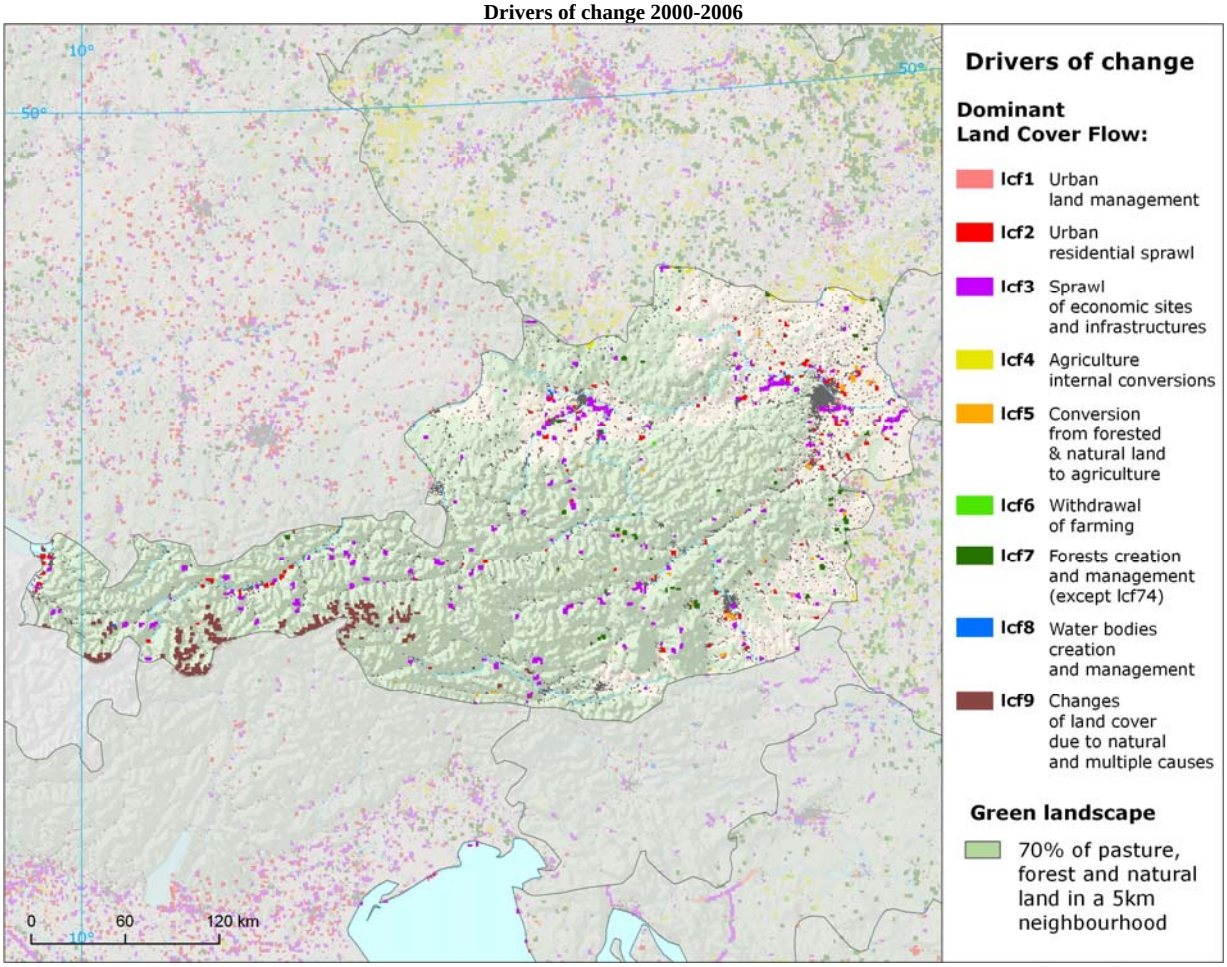


CLC Changes 1990-2000

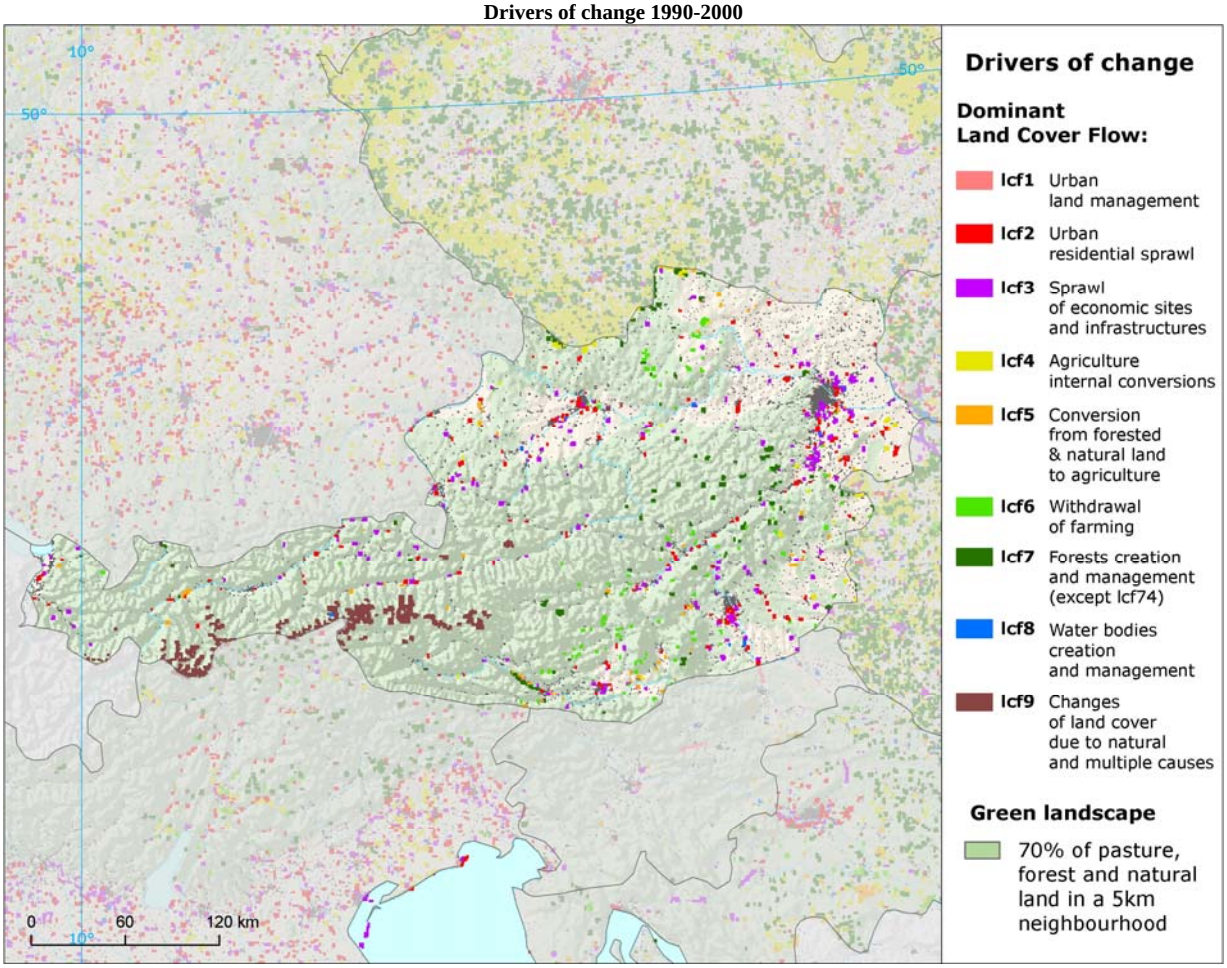


Austria

Drivers of change 2000-2006

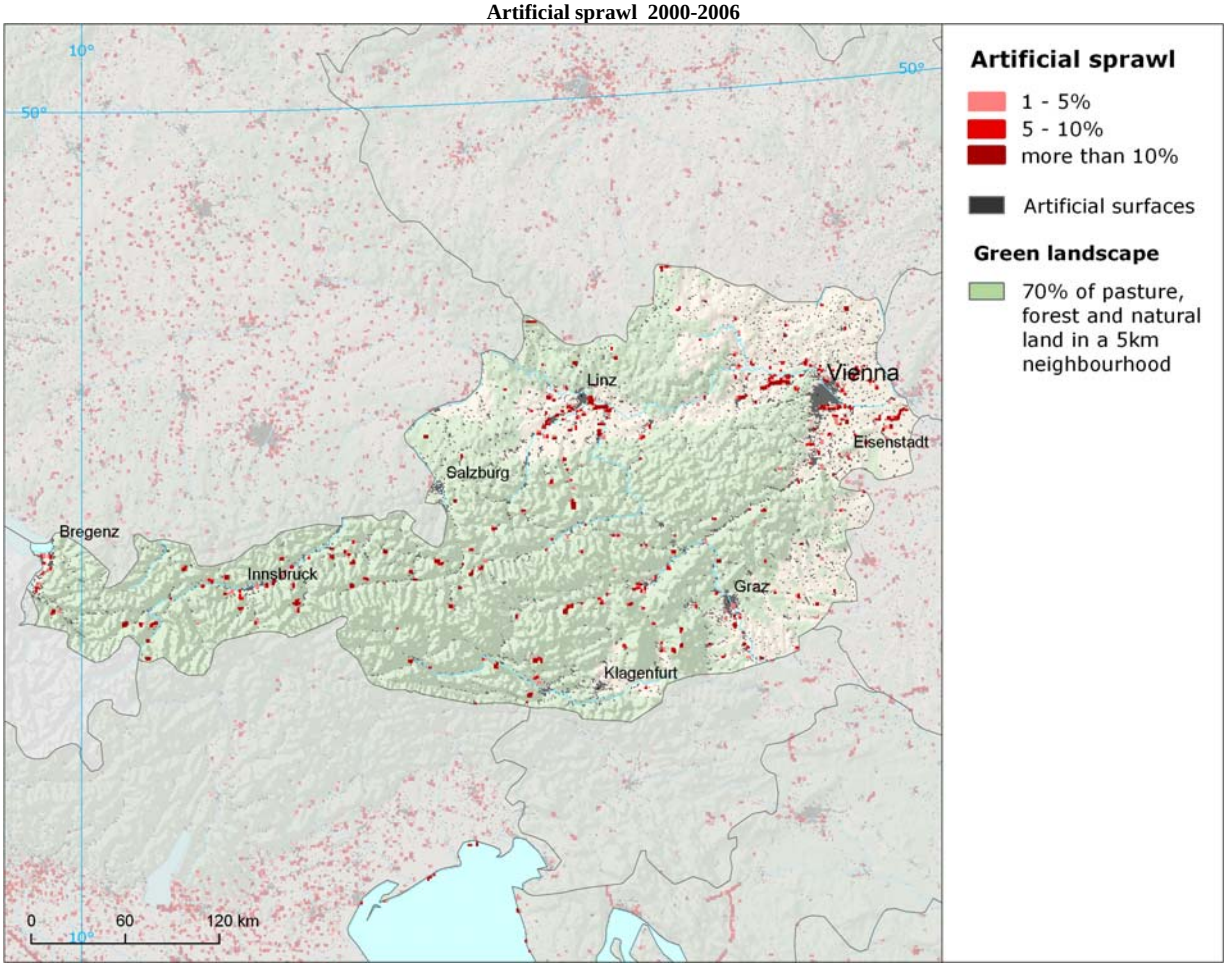


Drivers of change 1990-2000

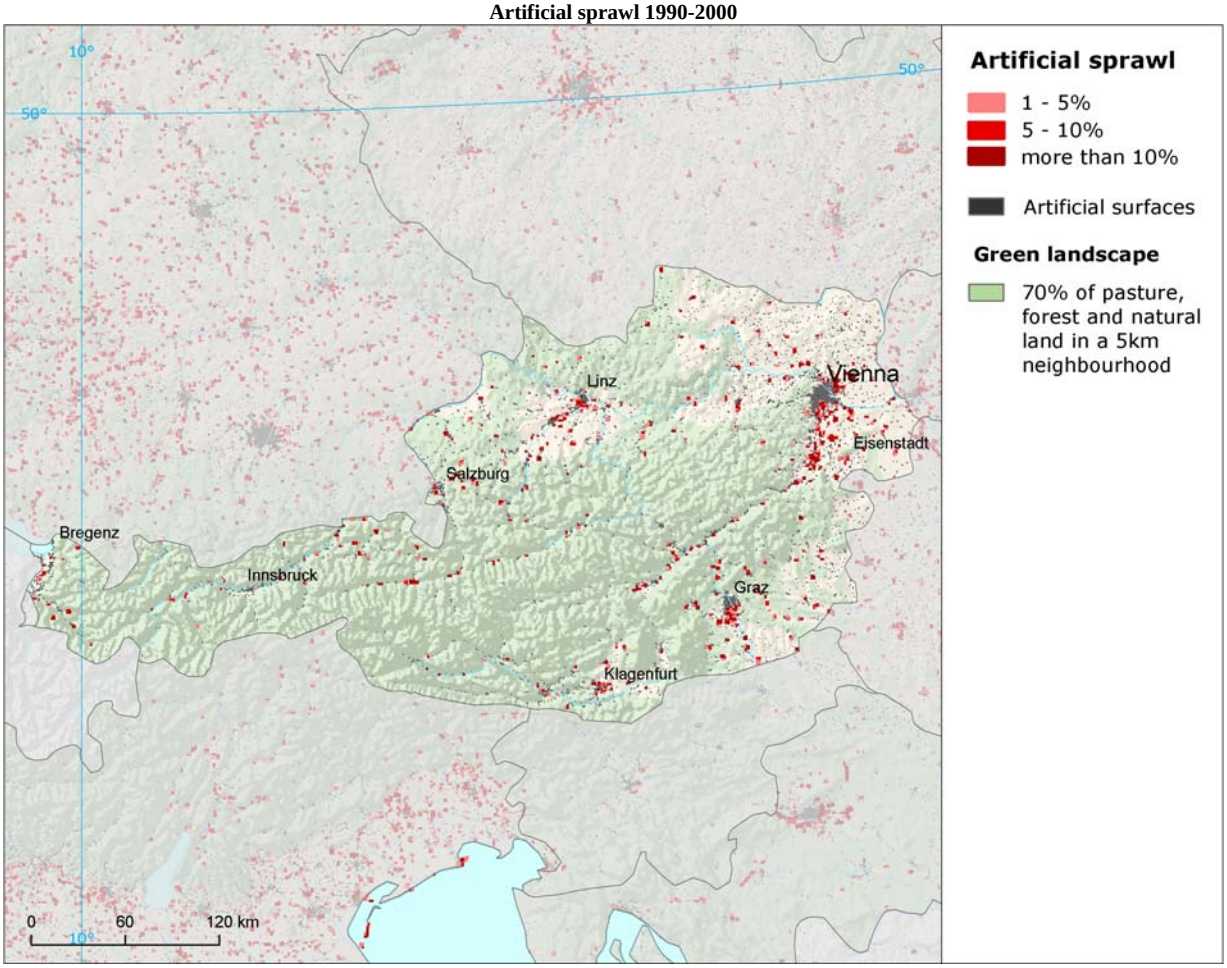


Austria

Artificial sprawl 2000-2006

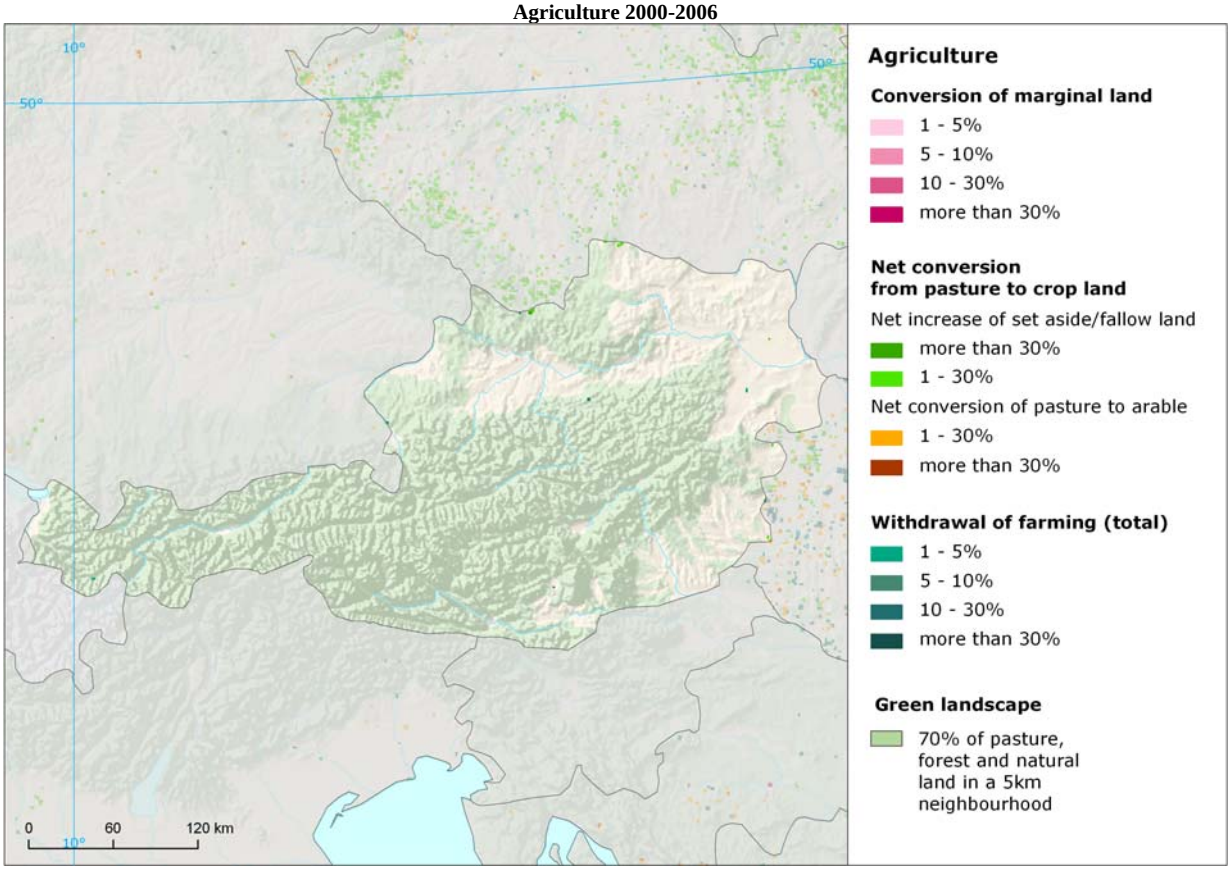


Artificial sprawl 1990-2000

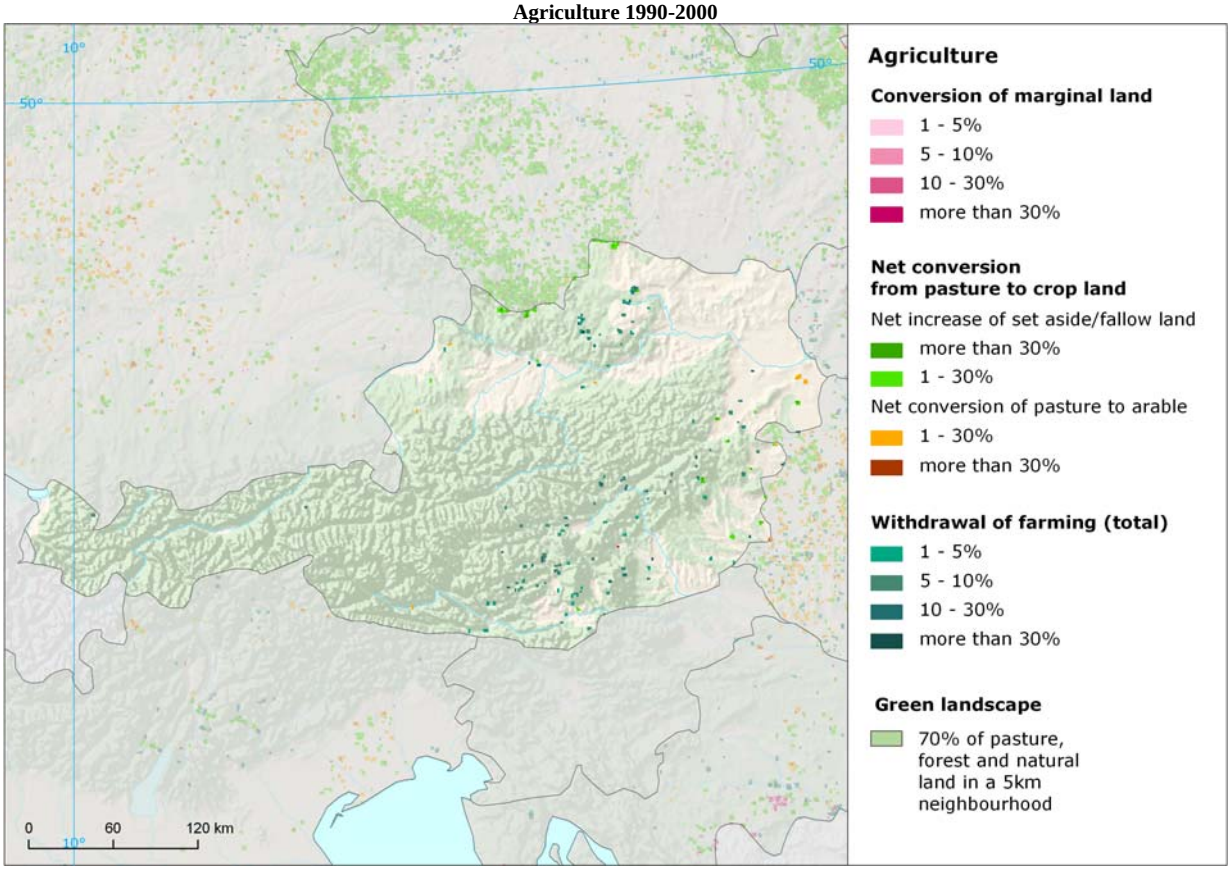


Austria

Agriculture 2000-2006



Agriculture 1990-2000



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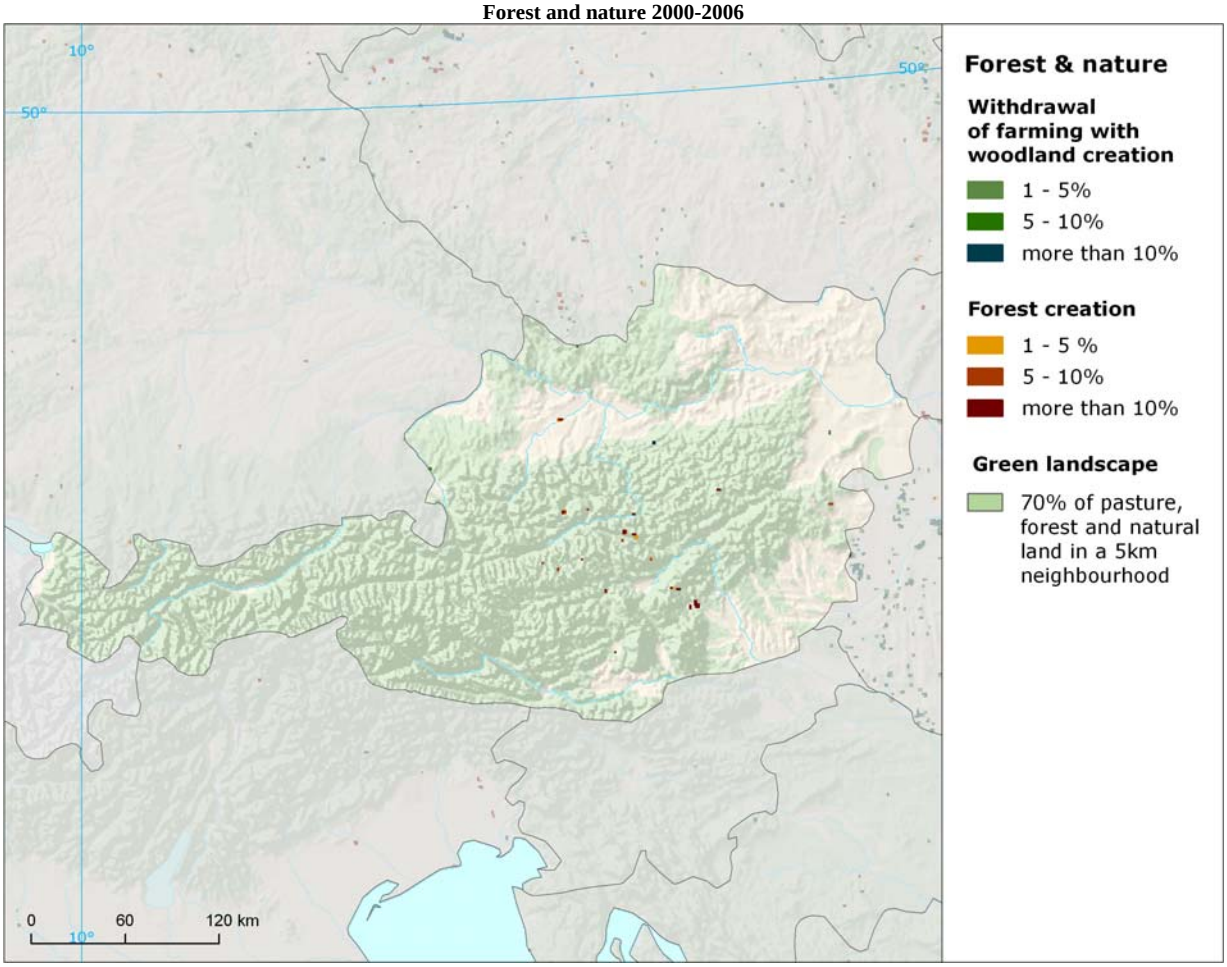
Forest and nature 2000-2006



Forest and nature 1990-2000