Country fact sheet

Land cover 2012

Czech Republic

September 2017

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European Environment Agency

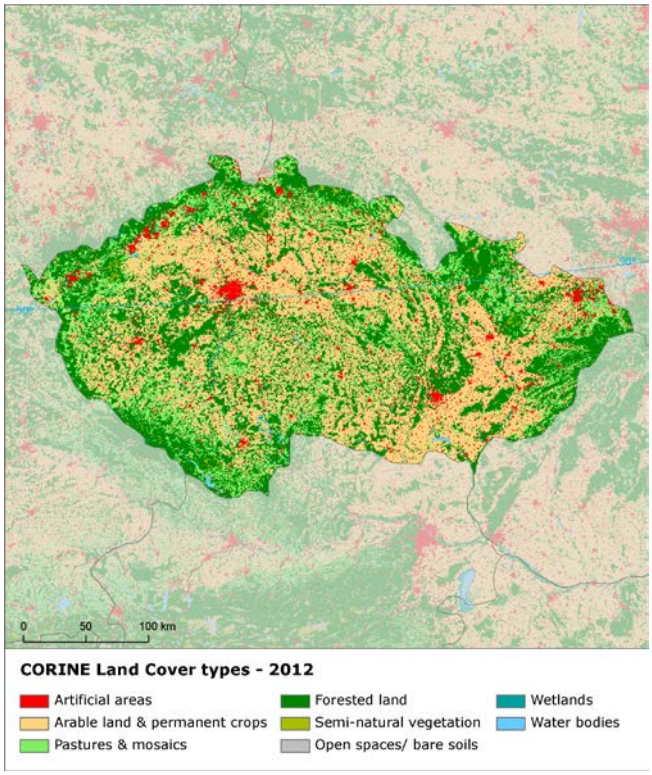
Czech Republic

Land cover 2012

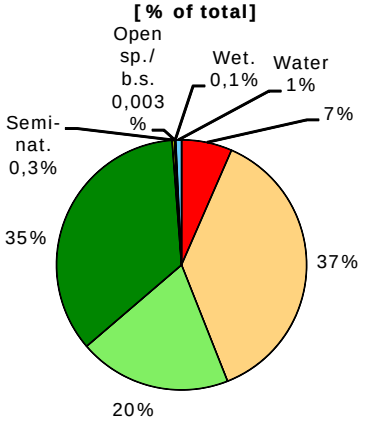
Overview of land cover & change 2006-2012

According to the annual change rate (0.40%), the overall intensity of the land cover development in the Czech Republic in this period slightly increased, compared to the 2000-2006 with an annual change rate of 0.33%. It has to be mentioned, that both these rates are more than twice lower in comparison with the period 1990-2000, which shows a certain stabilization of the landscape in the country over the last two decades. However, the overall change dynamics of Bohemian landscape is still significantly above the European average.
In the long term, internal agricultural conversions represent the main change driver in the country – they are more extensive than internal conversions of forested land, which is rather rare phenomenon in the frame of European countries. The frequent conversion of arable land to pasture or set aside fallow land is the most typical change for the Czech landscape (this was the main conversion already in the period 1990-2000). The intensity of internal agricultural development is significantly higher, compared to previous period, but circa twice lower than in 1990-2000.
This conversion from arable land to pasture, together with artificial land take, leads to extensive consumption of arable land in the country. On the other hand, significant formation of pasture and set aside land can be observed, in both periods 2000-2006 and 2006-2012.
Urban sprawl, which seemed to accelerate during previous period, continues with comparable intensity. With 0.44% of annual artificial land take rate, sprawl in the Czech Republic is slightly faster than the European average. The land take is driven mostly by the sprawl of commercial and industrial sites as well as diffuse residential sprawl. On the other hand, there can be observed frequent conversions of dump sites to agricultural use, which document effort for landscape revitalization.
Another significant driver of land cover development in the country are the internal conversions of forested land, where a significant tendency of transition from vulnerable spruce monocultures (which still creates a majority of Czech forested land - about 61%) to more resistant mixed or broad-leaved forest cultures can be observed.

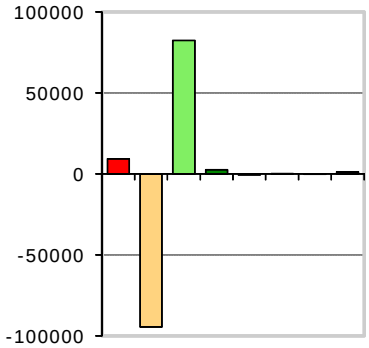
Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over more than decade between 2000-2006-2012 - see Corine land cover (CLC) programme for details.
Number of years between CLC2006-CLC2012 data for the Czech Republic: 6



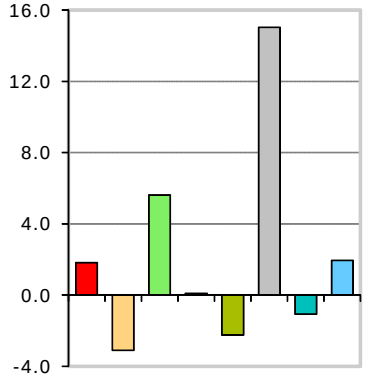
1.1. Land cover 2012 [% of total]

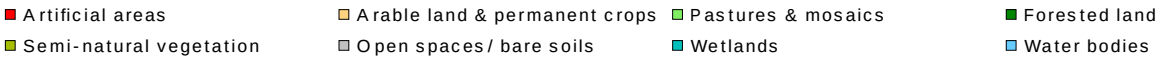


1.2. Net change in land cover 2006-2012 [ha]



1.3. Net change in land cover [% of initial year 2006]





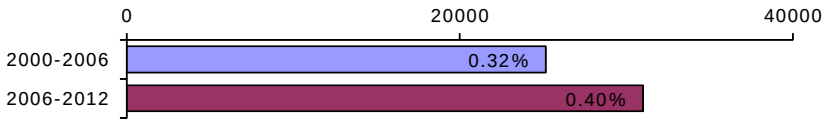
Summary balance table 2006-2012

	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 2006	**5044**	**30327**	**14644**	**27483**	**270**	**2**	**104**	**568**	**78442**
Consumption of initial LC	61.3	1102.9	132.5	556.1	7.0	0.0	1.2	0.2	1861
Formation of new LC	153.4	158.8	955.3	581.0	1.0	0.3	0.1	11.2	1861
Net Formation of LC	**92.1**	**-944.1**	**822.8**	**24.9**	**-6.1**	**0.3**	**-1.1**	**11.0**	**0**
Net formation as % of initial year	*1.8*	*-3.1*	*5.6*	*0.1*	*-2.2*	*15.0*	*-1.1*	*1.9*	
Total turnover of LC	**214.7**	**1261.7**	**1087.8**	**1137.1**	**8.0**	**0.3**	**1.3**	**11.5**	**3722**
Total turnover as % of initial year	*4.3*	*4.2*	*7.4*	*4.1*	*3.0*	*15.0*	*1.3*	*2.0*	*4.7*
Land cover 2012	**5136**	**29383**	**15467**	**27508**	**264**	**2**	**103**	**579**	**78442**

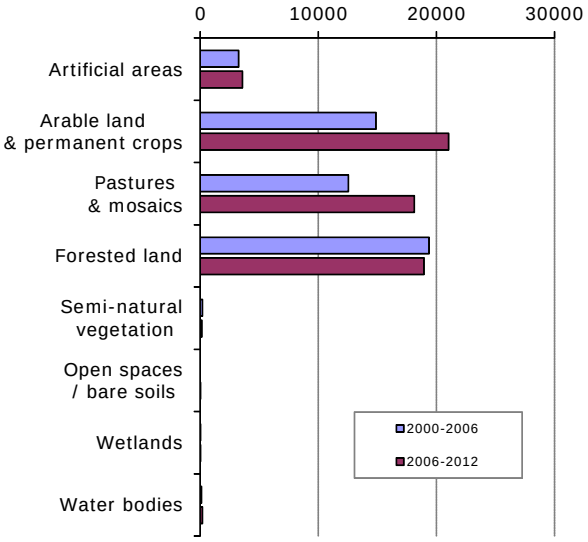
Czech Republic

Land cover trends comparison 2000-2006 vs. 2006-2012

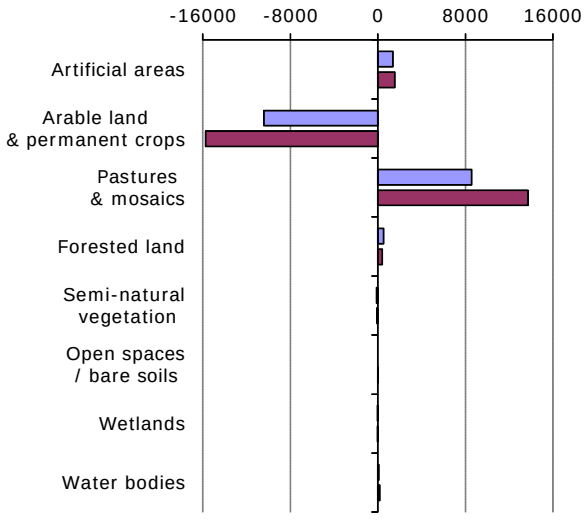
2.4. Annual land cover change [ha/year, % of total area]



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

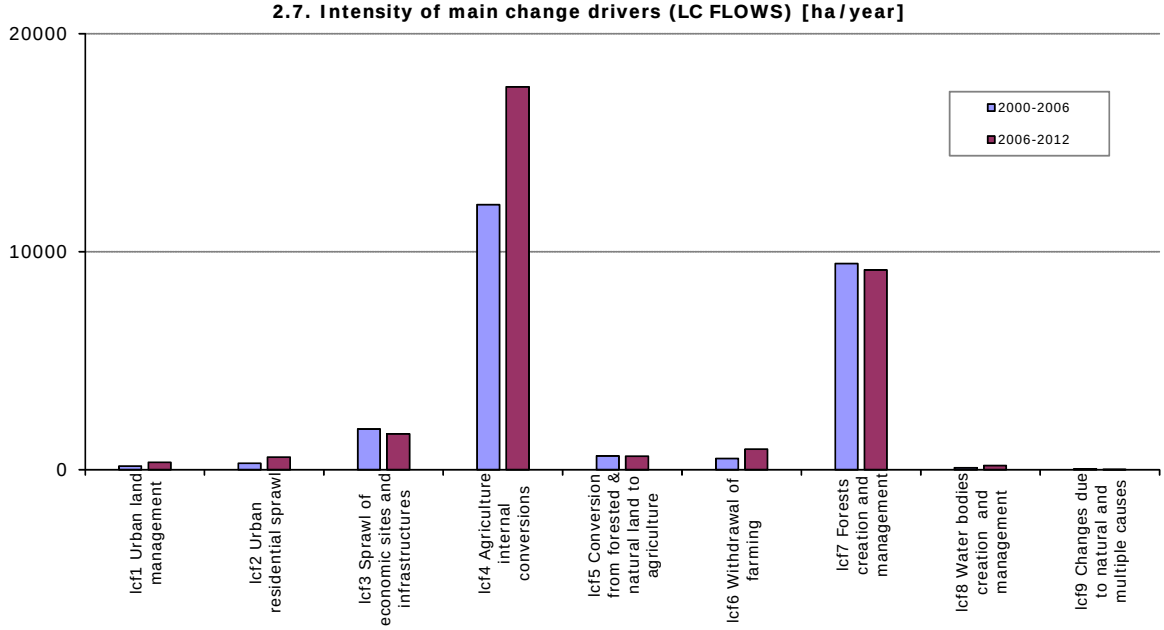


2.6. Net annual change of LC types [ha/year]



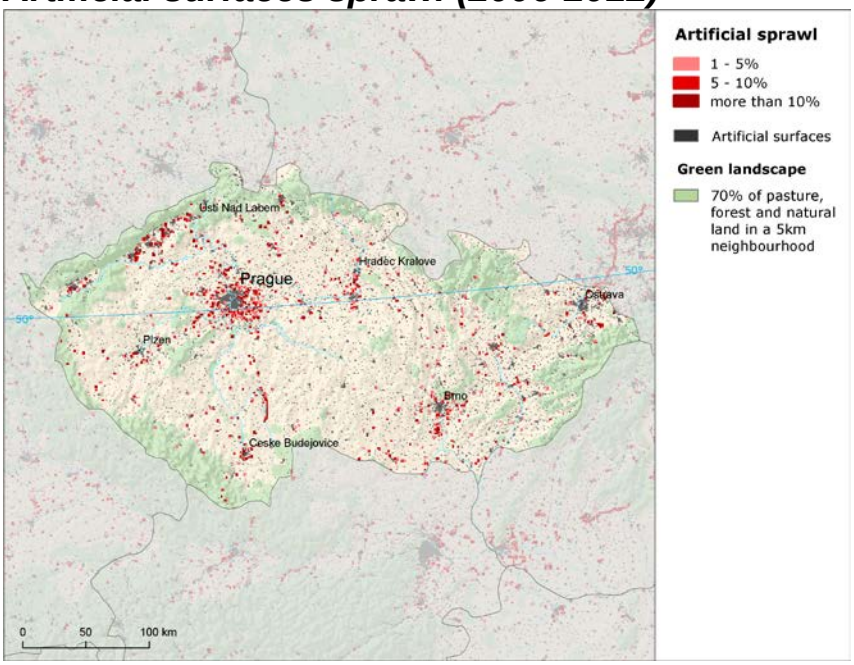
Summary trend figures	2000-2006	2006-2012
Annual land cover change [ha/year]	**25173**	**31020**
Annual land cover change as % of initial year	**0.32%**	**0.40%**
Land uptake by artificial development as mean annual change [ha/year]	2118	2159
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	1962	2000
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	-510	-748
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	-9196	-13850
Forest & other woodland net formation as mean annual change [ha/year]	529	416
Dry semi-natural land cover net formation as mean annual change [ha/year]	-131	-96
Wetlands & water bodies net formation as mean annual change [ha/year]	80	165

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

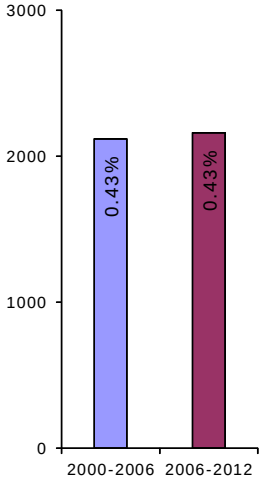


Czech Republic

Artificial surfaces sprawl (2006-2012)



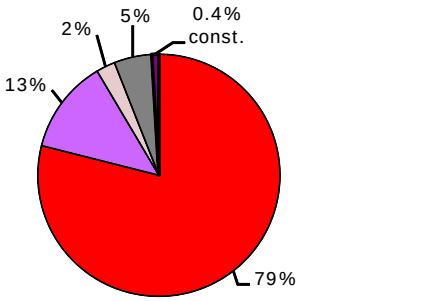
3.8. Artificial land take [ha/year, % of initial year]



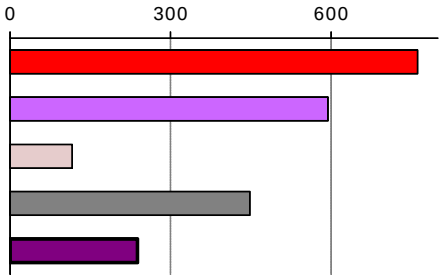
Commercial and residential sprawl at the same level

The intensity of artificial land take is almost identical to the period 2000-2006 and slightly higher than in the 1990-2000 period. Artificial development composed mainly of residential and commercial/industrial areas extensions – both of them more frequent than in previous period, as well as the sprawl of mines and quarrying areas. Also, the recycling of developed urban areas has been a bit stronger, represented by conversion of former construction sites into commercial/industrial, transportation or urban fabric units. An overall decrease of construction sites area has been registered, which can indicate a slowdown of artificial development in the future. Agricultural land, mainly arable (71%), remains the main source of the land take; while natural surfaces represent only 10% of the whole area taken by sprawl. Most of the sprawl is situated in the surroundings of the capital city of Prague, as well as in the northern part of the country. The internal structure of sprawl shows a domination of the residential one mainly around Prague and the second largest Czech city – Brno. Sprawl in other localities is driven more by the extension of economic sites and infrastructures. The last segment of the motorway connecting the capital city (and also the major highway in the Czech Republic – D1) with the southern country border has been finished, which is important for the transport connection to Austria.

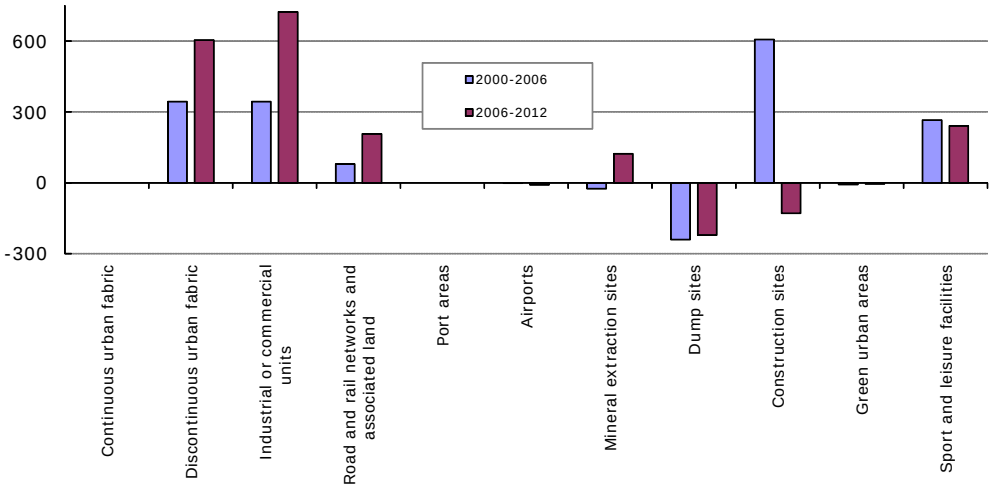
3.9. Artificial surfaces 2012 [% of total area]



3.10. Artificial land take 2006-2012 [ha/year]

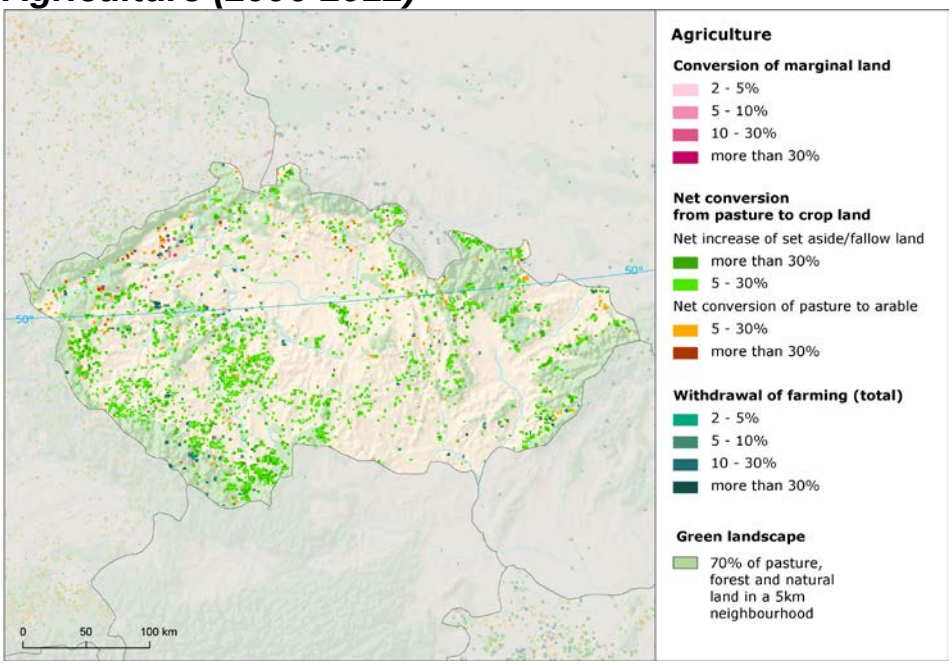


3.11. Mean annual artificial change by class [ha/year]



Czech Republic

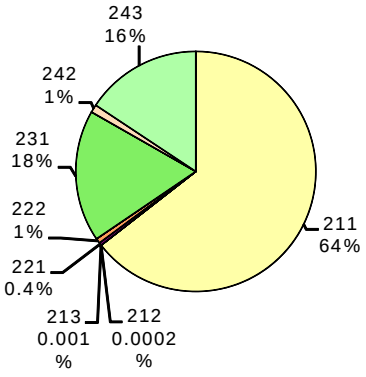
Agriculture (2006-2012)



Extensification of agriculture

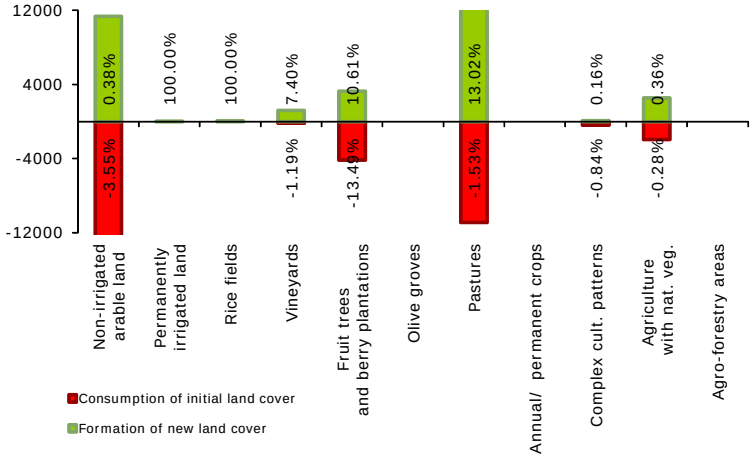
As mentioned above, internal development of agricultural land is the main driver of land cover change in the Czech Republic. There occurs a long term trend of conversion of arable land to pasture or fallow land. Concerning the geographical distribution, this phenomenon occurs in all regions, with the exception of lowland regions with intensive agricultural land use, where the use of arable land is substantial. The opposite trend of pasture conversion to arable seems to be quite typical for north-western part of the country. There also occurs withdrawal of farming with or without woodland creation, which accompanies the general tendency of the agri-natural land use extensification. The overall decrease of arable land area is also driven by the sprawl of commercial/industrial sites and residential areas. The consumption of agricultural land is compensated by conversion of dump, mineral extraction or construction sites to agricultural land use, mainly pastures, which shows an efforts for landscape revitalization in the country. The result of all these processes can be observed in the overall balance of agricultural land cover types as a significant consumption of arable land and formation of pasture.

4.12. Agricultural areas 2012 [% of total area]

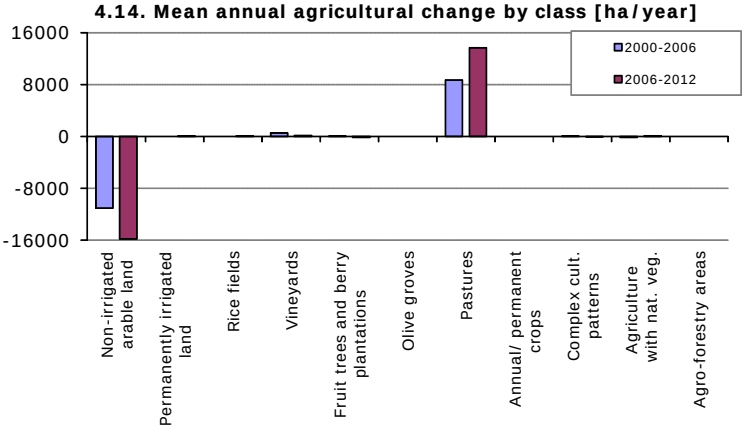


211 Non-irrigated arable land
212 Permanently irrigated land
213 Rice fields
221 Vineyards
222 Fruit trees and berry plantations
223 Olive groves
231 Pastures
241 Annual crops associated with permanent crops
242 Complex cultivation patterns
243 Agriculture land with significant areas of natural vegetation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

4.13. Development of agricultural areas 2006-2012 – detailed balance [ha]

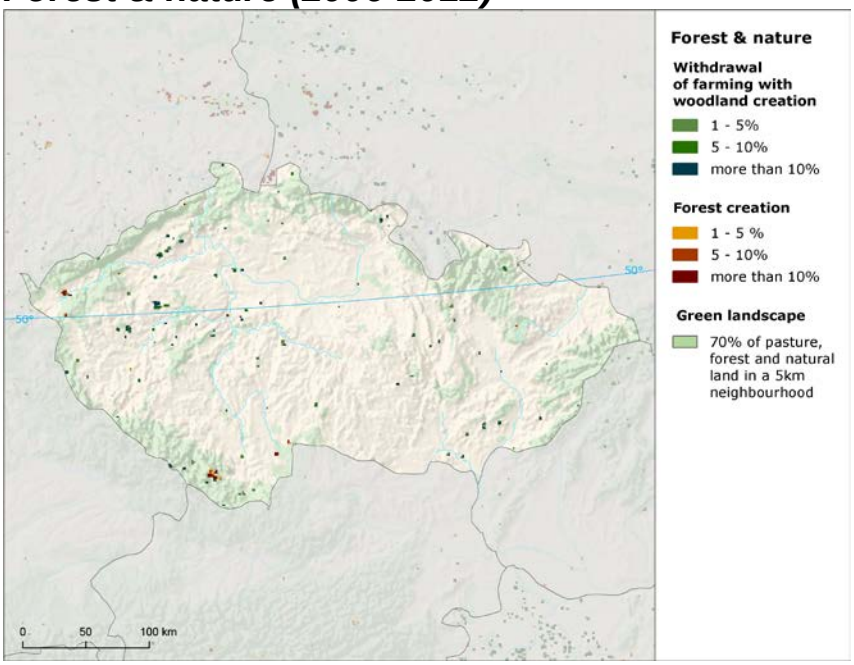


4.14. Mean annual agricultural change by class [ha/year]

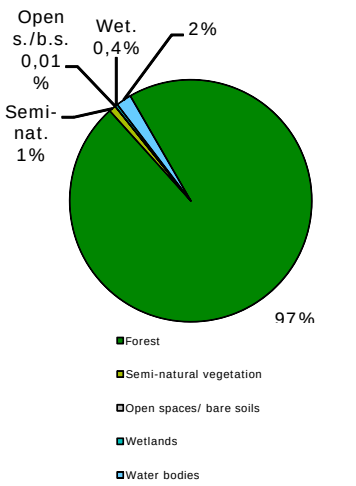


Czech Republic

Forest & nature (2006-2012)



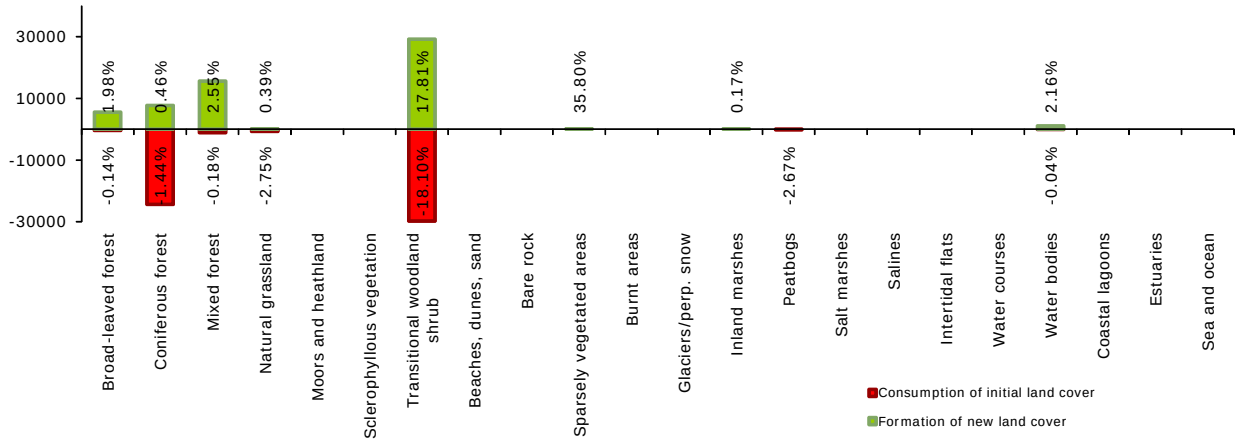
5.15. Forest & nature areas 2012 [% of total area]



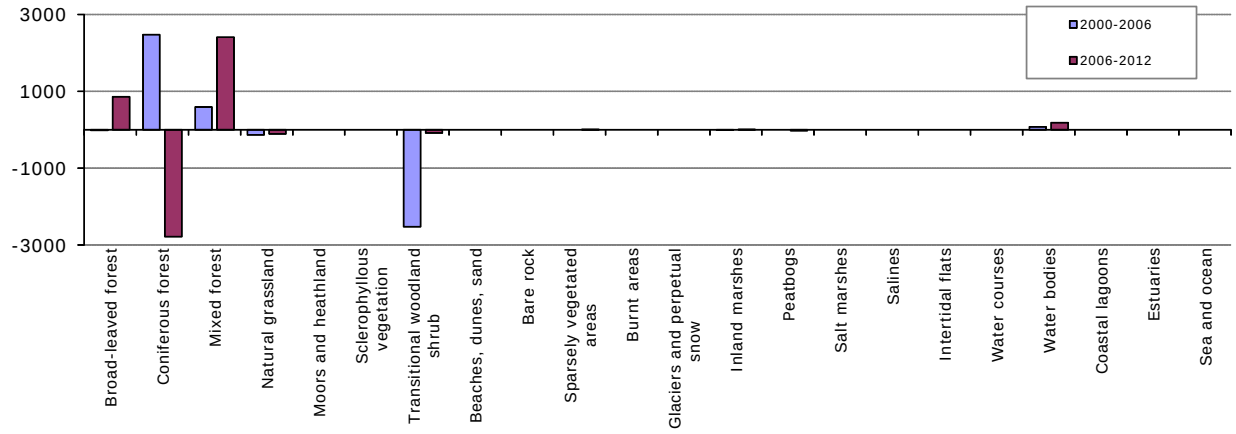
From spruce monocultures to mixed or broad-leaved forest

The situation in the natural landscape is stabilized in the long term in the Czech Republic, with no occurrence of radical conversions. Internal forest conversions are the main driver of the natural land development. The area of coniferous forest is decreasing, in contrast to formation of broad-leaved or mixed forest. This trend has not been observed in the previous period and is clearly induced by the fact that coniferous monocultures, which were earlier widely preferred in the Czech Republic, are much more vulnerable and therefore endangered by natural hazards like windstorms, as well as by infesting species, especially the bark beetle. Such natural calamities already led to destruction of large forested areas in the Czech mountains. Therefore, there is a tendency to improve the overall sustainability of the forested land, which, among others, can be achieved by replacing coniferous monocultures by mixed or broad-leaved forest cultures.

5.16. Development of forest & nature areas 2006-2012 – detailed balance [ha]



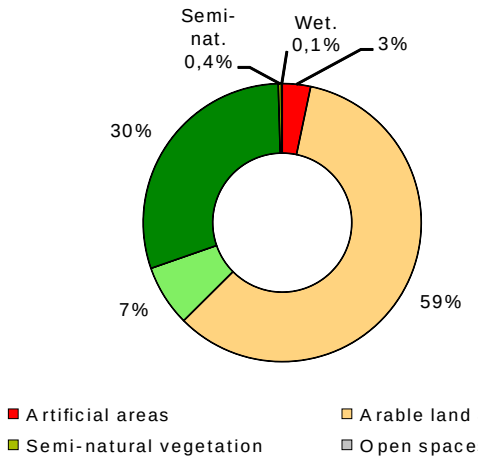
5.17. Mean annual forest & nature change by class [ha/year]



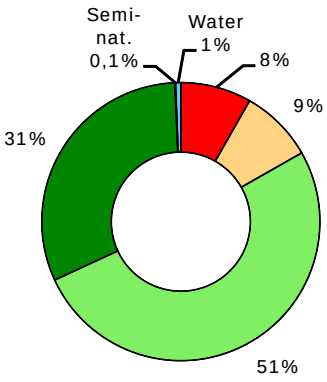
Annex: Land cover flows and trends

Land cover flows 2006-2012

6.18. Consumption of land cover 2006-2012 [% of total change area]

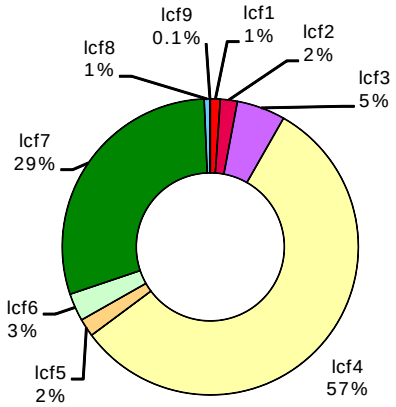


6.19. Formation of land cover 2006-2012 [% of total change area]



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) 2006-2012 [% of total change area]

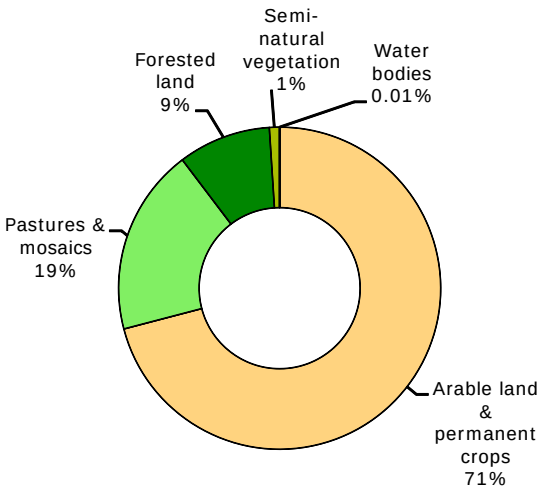


- lcf1 Urban land management
- lcf2 Urban residential sprawl
- lcf3 Sprawl of economic sites and infrastructures
- lcf4 Agriculture internal conversions
- lcf5 Conversion from forested & natural land to agriculture
- lcf6 Withdrawal of farming
- lcf7 Forests creation and management
- lcf8 Water bodies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

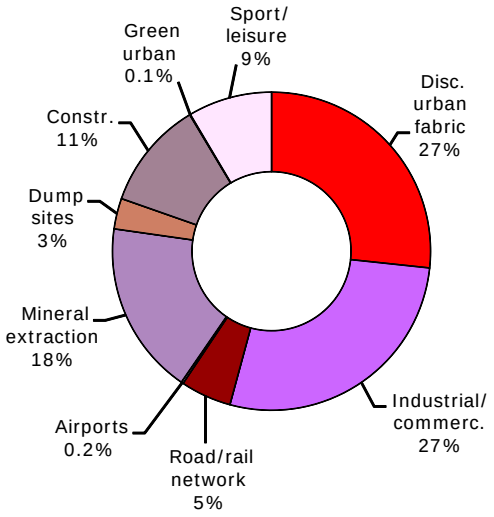
Czech Republic

Artificial areas

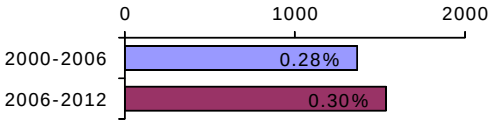
7.21. Consumption by artificial land take 2006-2012 [% of total]



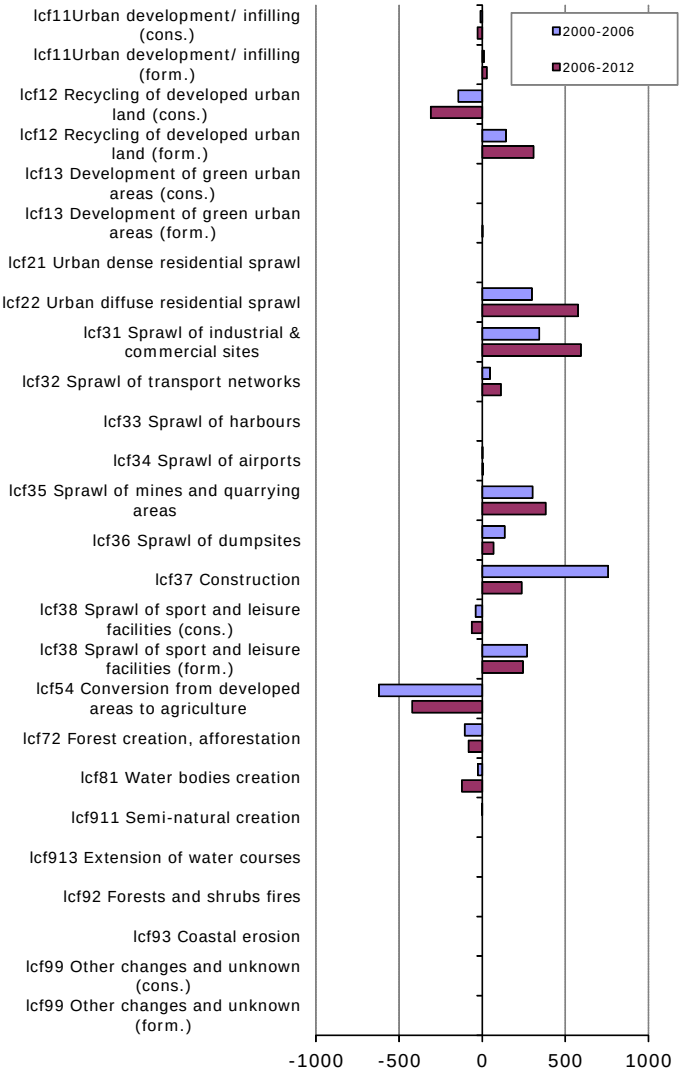
7.22. Formation by artificial land take 2006-2012 [% of total]



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



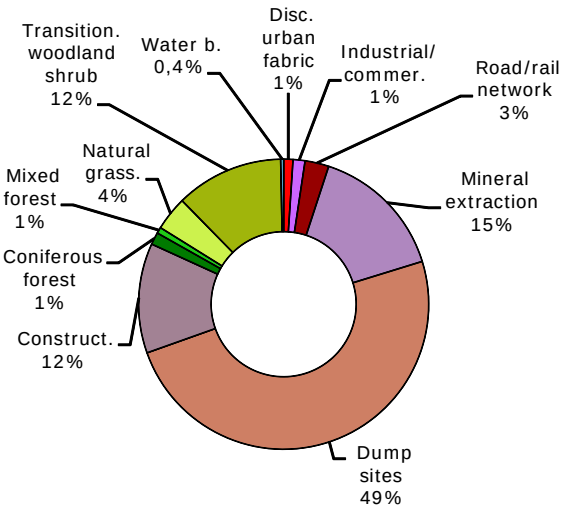
7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



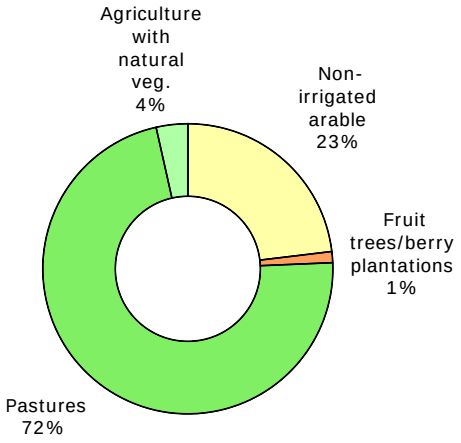
Czech Republic

Agriculture

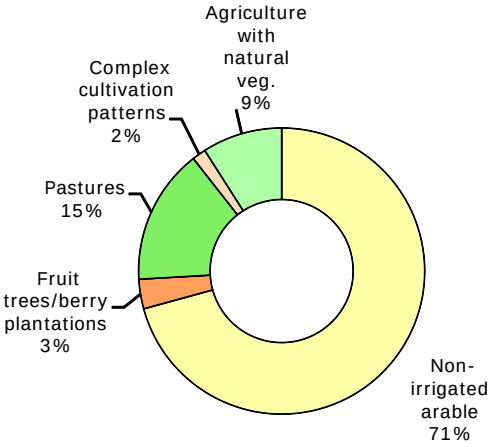
8.25. LC consumed by agriculture 2006-2012 [% of total]



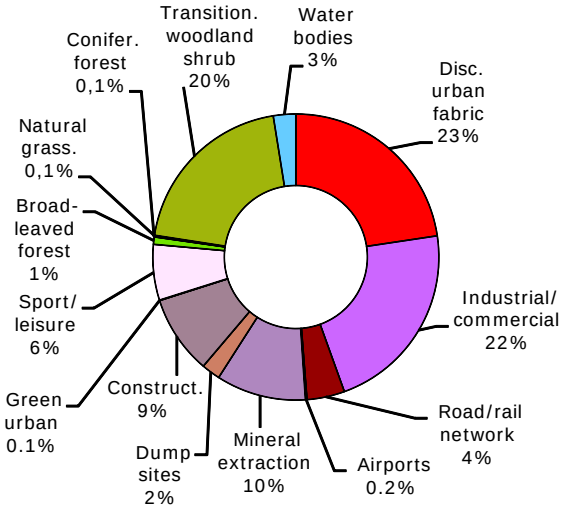
8.26. Formation of agricultural land from non-agriculture 2006-2012 [% of total]



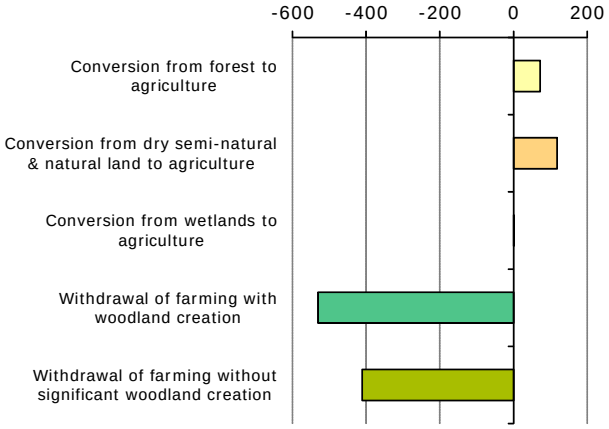
8.27. Consumption of agricultural land by non-agriculture 2006-2012 [% of total]



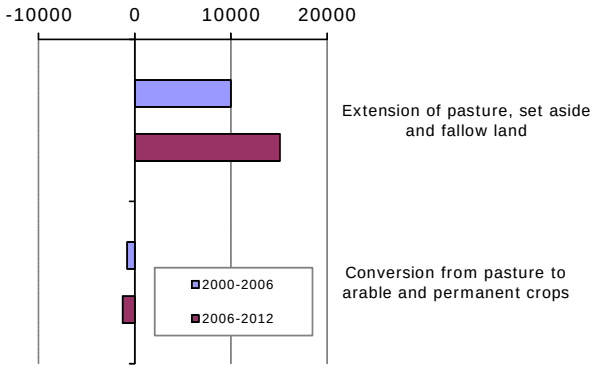
8.28. Formation of non-agricultural land from agriculture 2006-2012 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land 2006-2012 [ha/year]

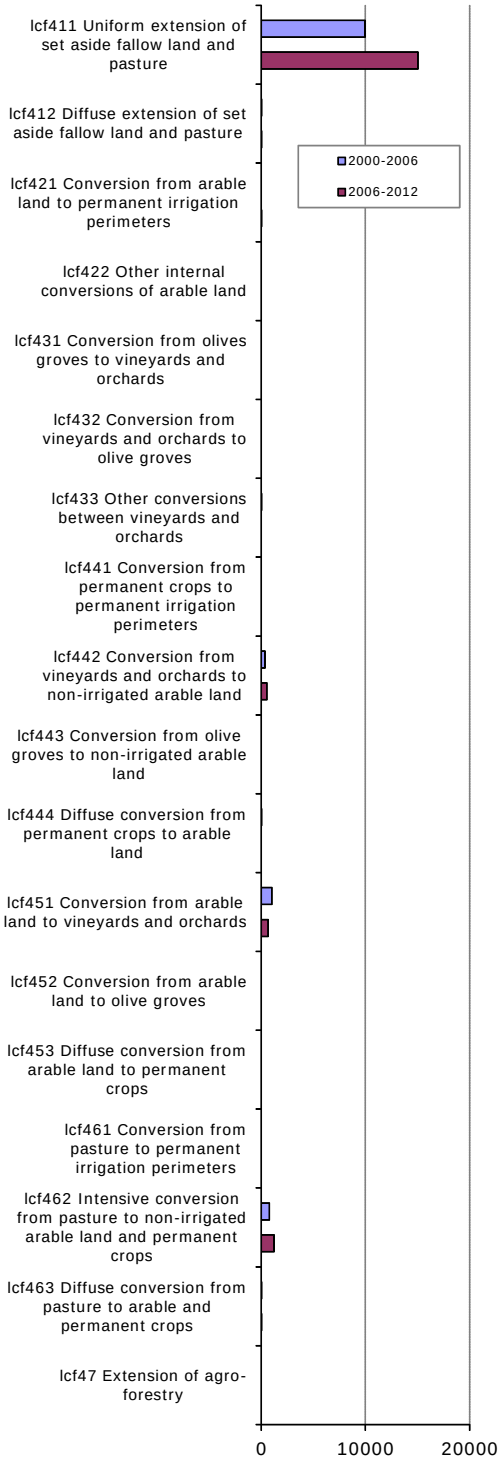


8.30. Mean annual conversion between arable land and pasture [ha/year]

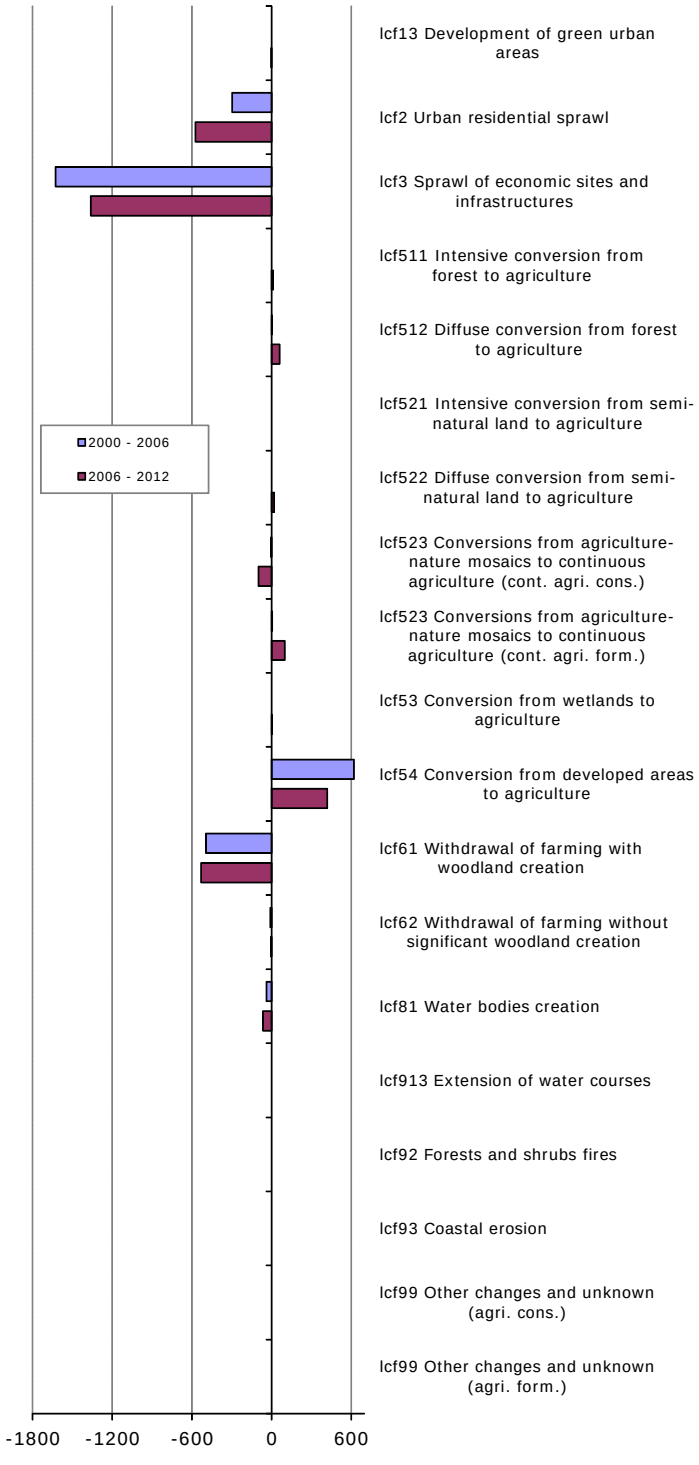


Czech Republic

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



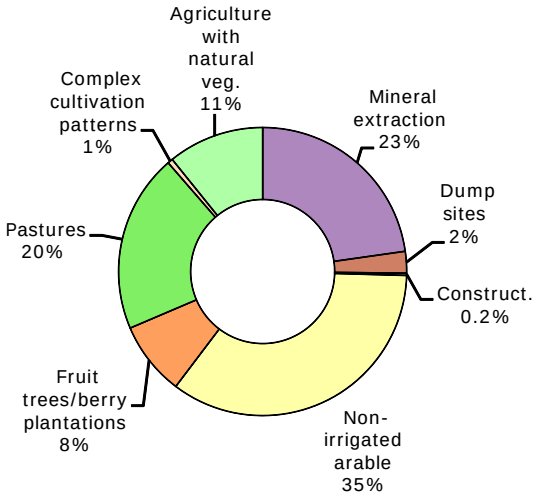
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



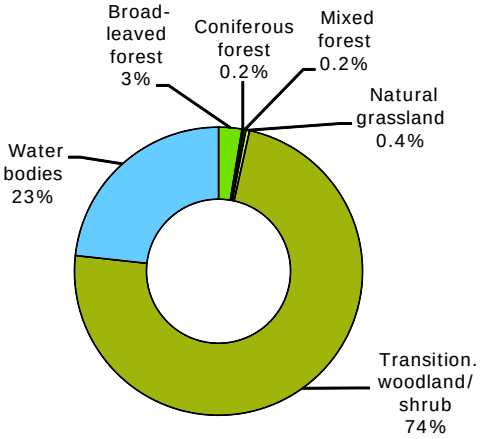
Czech Republic

Forest & nature

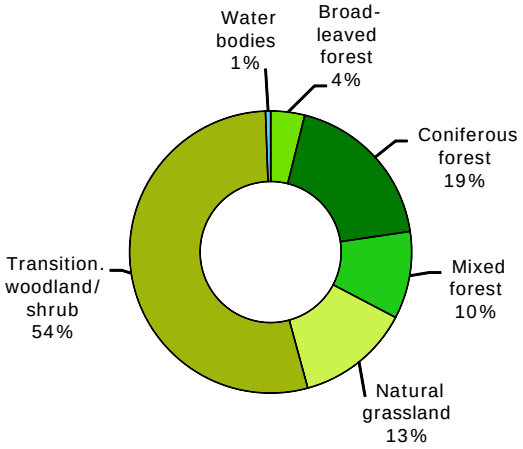
10.33. LC consumed by forest & nature 2006-2012 [% of total]



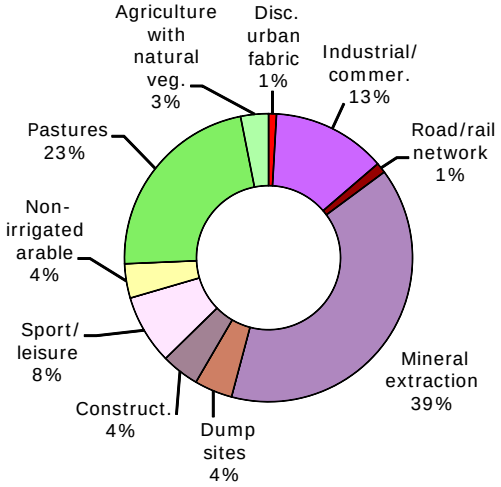
10.34. Formation of forest & nature land from non-forest /nature 2006-2012 [% of total]



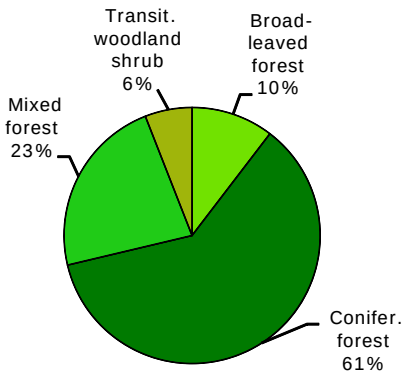
10.35. Consumption of forest & nature land by non-forest/nature 2006-2012 [% of total]



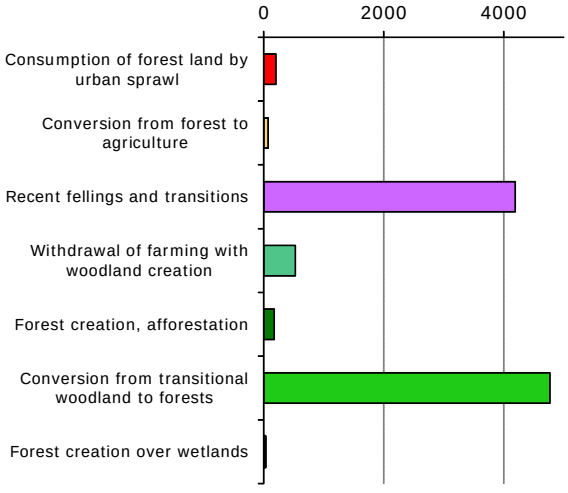
10.36. Formation of non-forest/nature land from forest & nature 2006-2012 [% of total]



10.37. Forested land 2012 [% of total area]



10.38. Main trends in woodland & forests consumption/formation 2006-2012 [ha/year]



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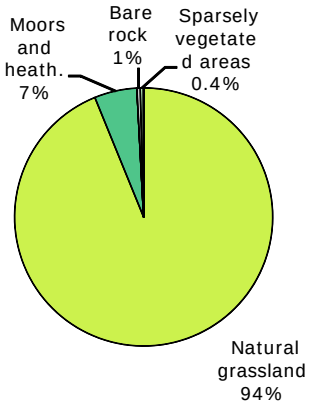
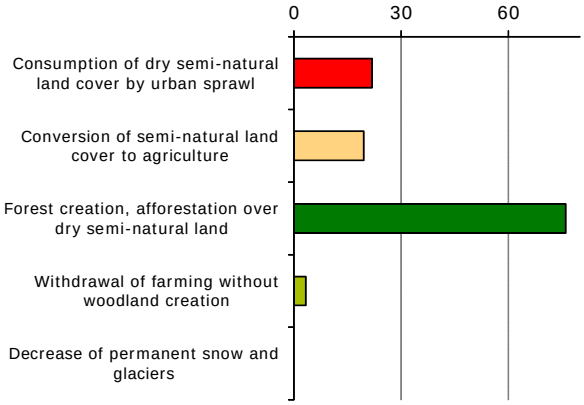
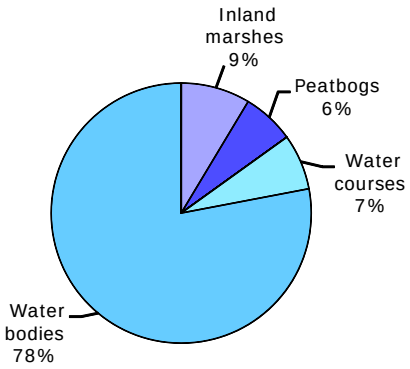
11.39. Dry semi-natural areas 2012 [% of total area]



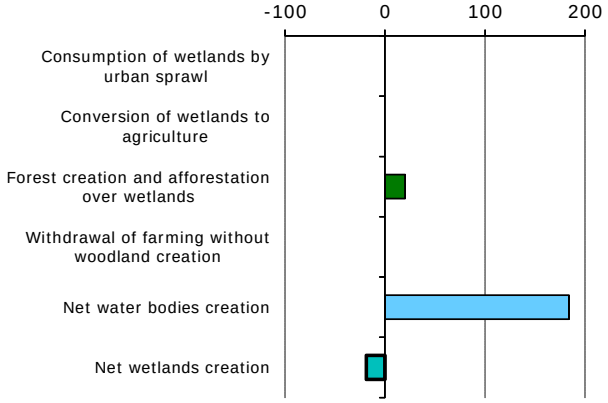
11.40. Main trends in dry semi-natural land consumption/formation 2006-2012 [ha/year]



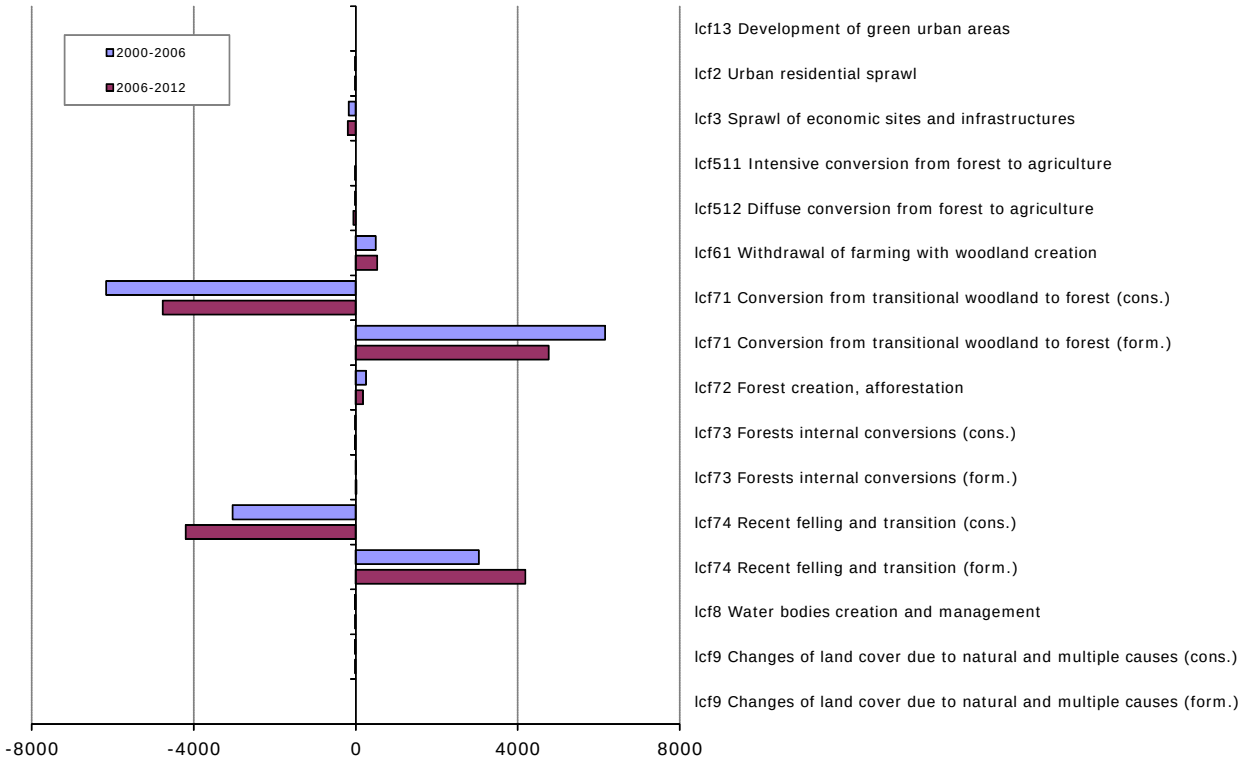
11.41. Wetlands & water 2012 [% of total area]



11.42. Main trends in wetlands & water consumption/formation 2006-2012 [ha/year]



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



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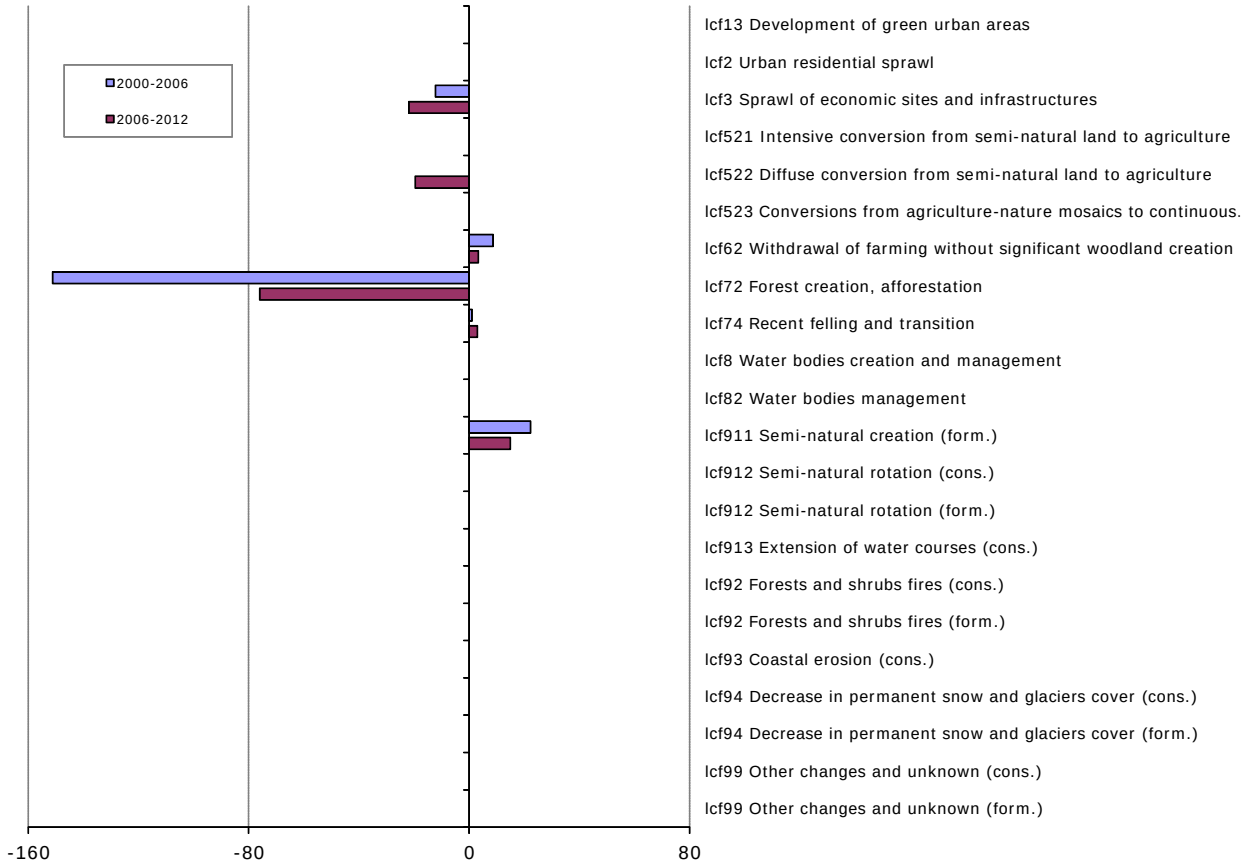
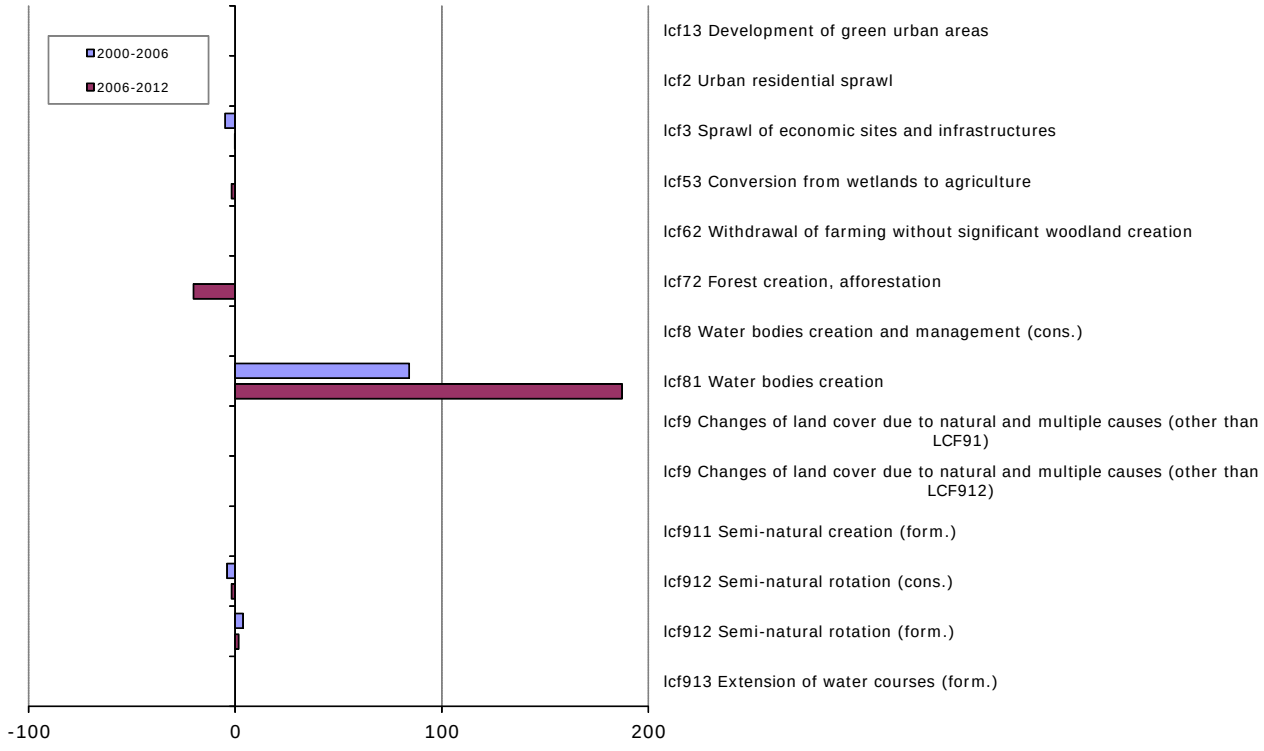
12.44. Mean annual conversions of dry semi-natural LC [ha/year]



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



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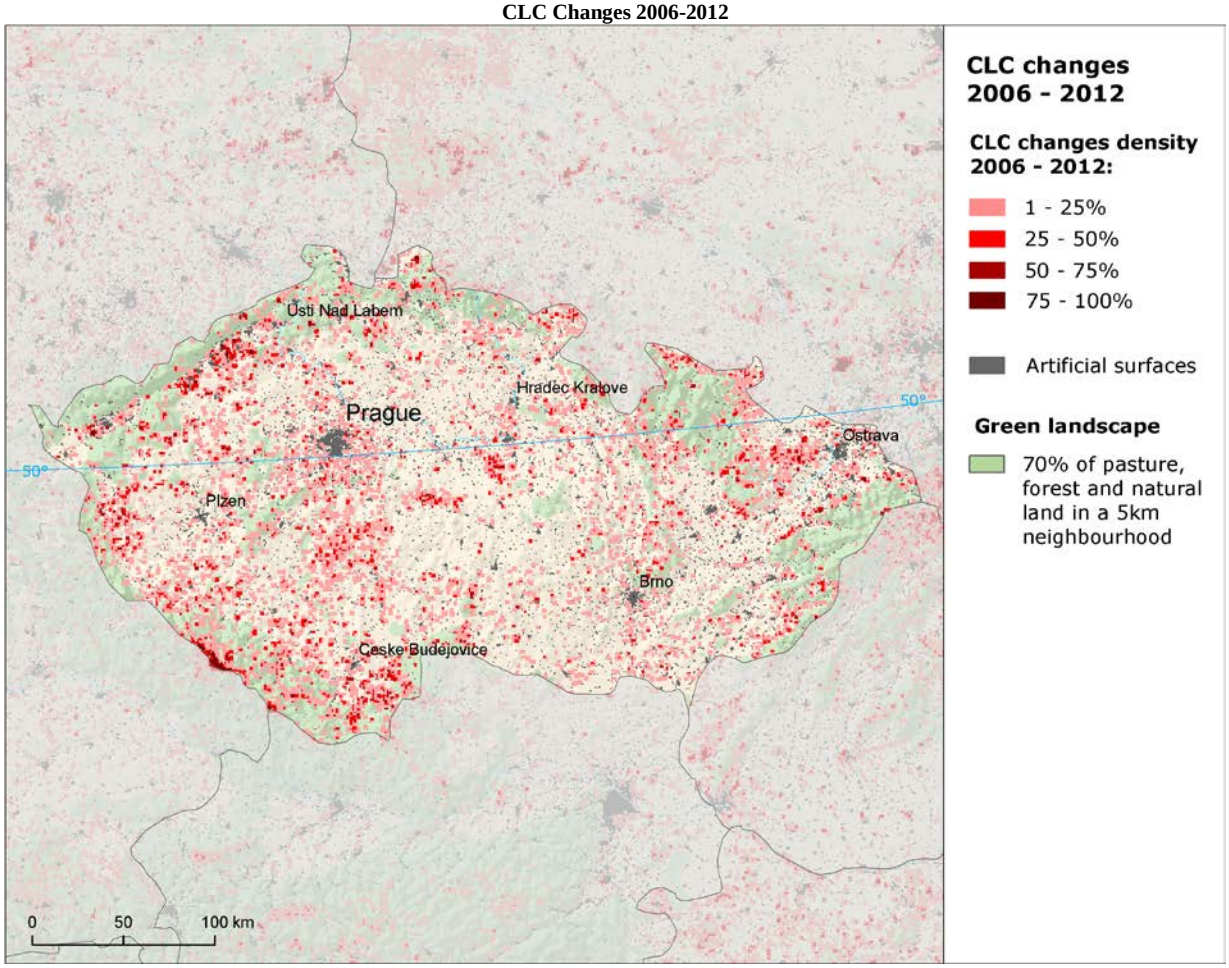
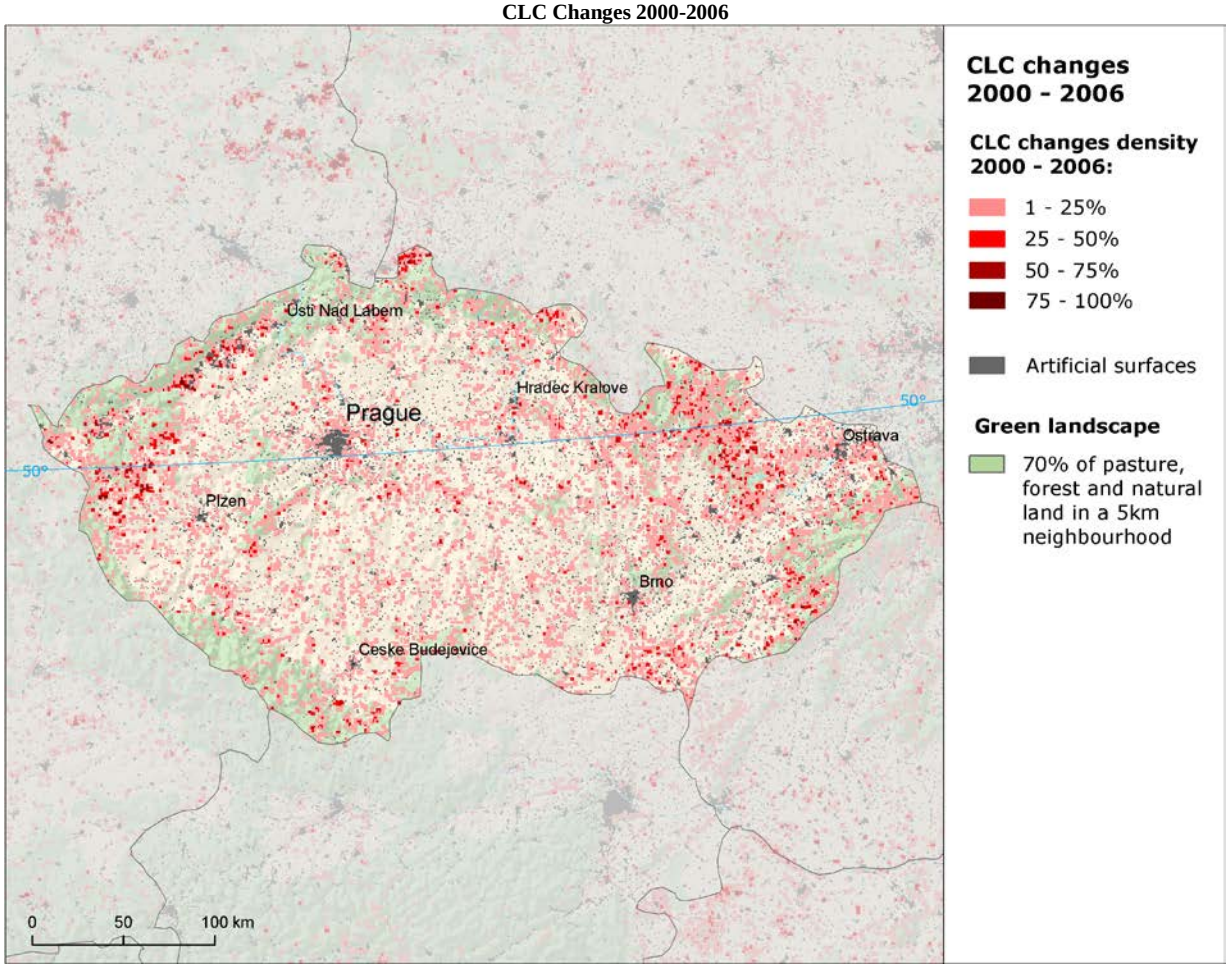
CLC Changes 2006-2012



CLC Changes 2000-2006



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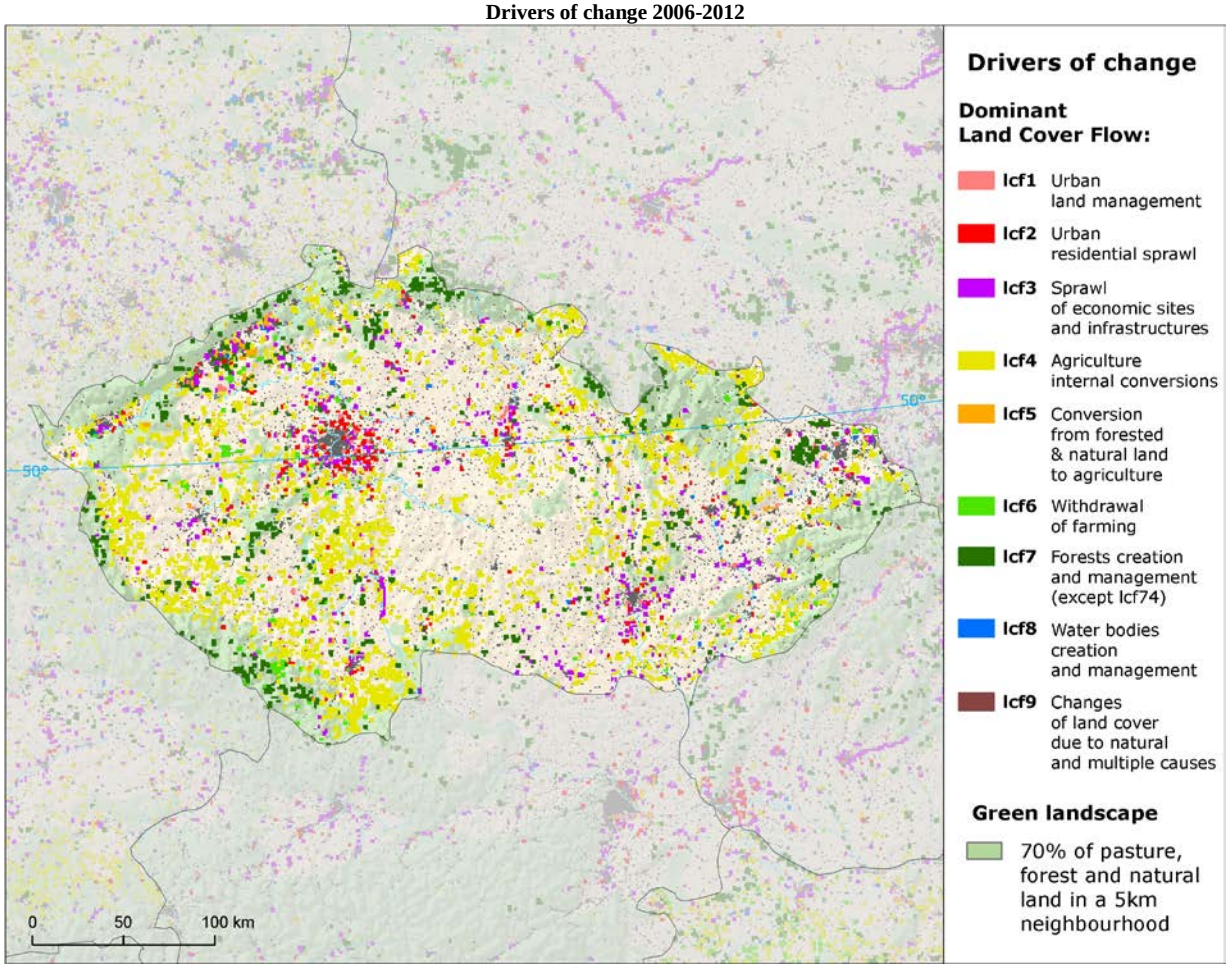
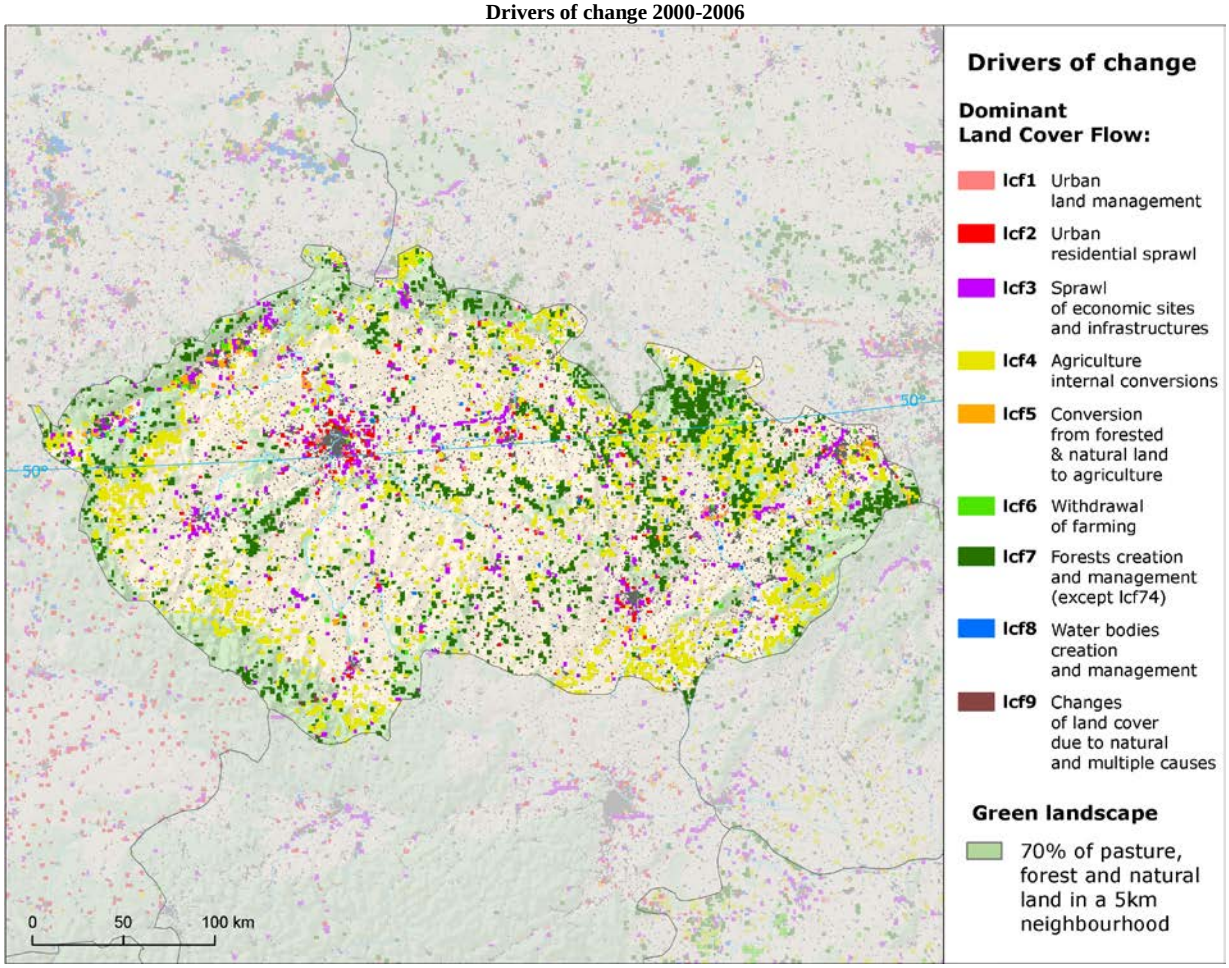
Drivers of change 2006-2012



Drivers of change 2000-2006



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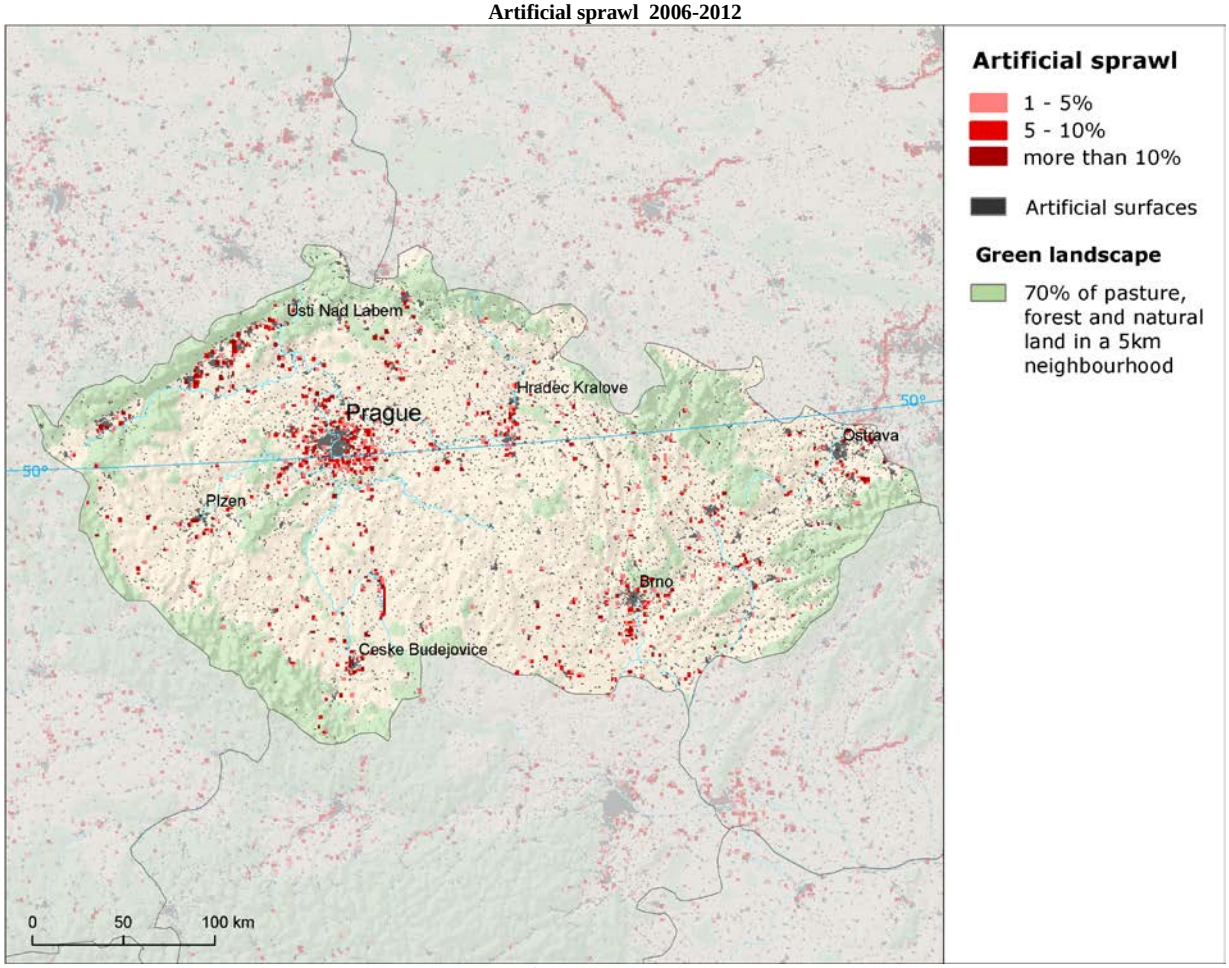
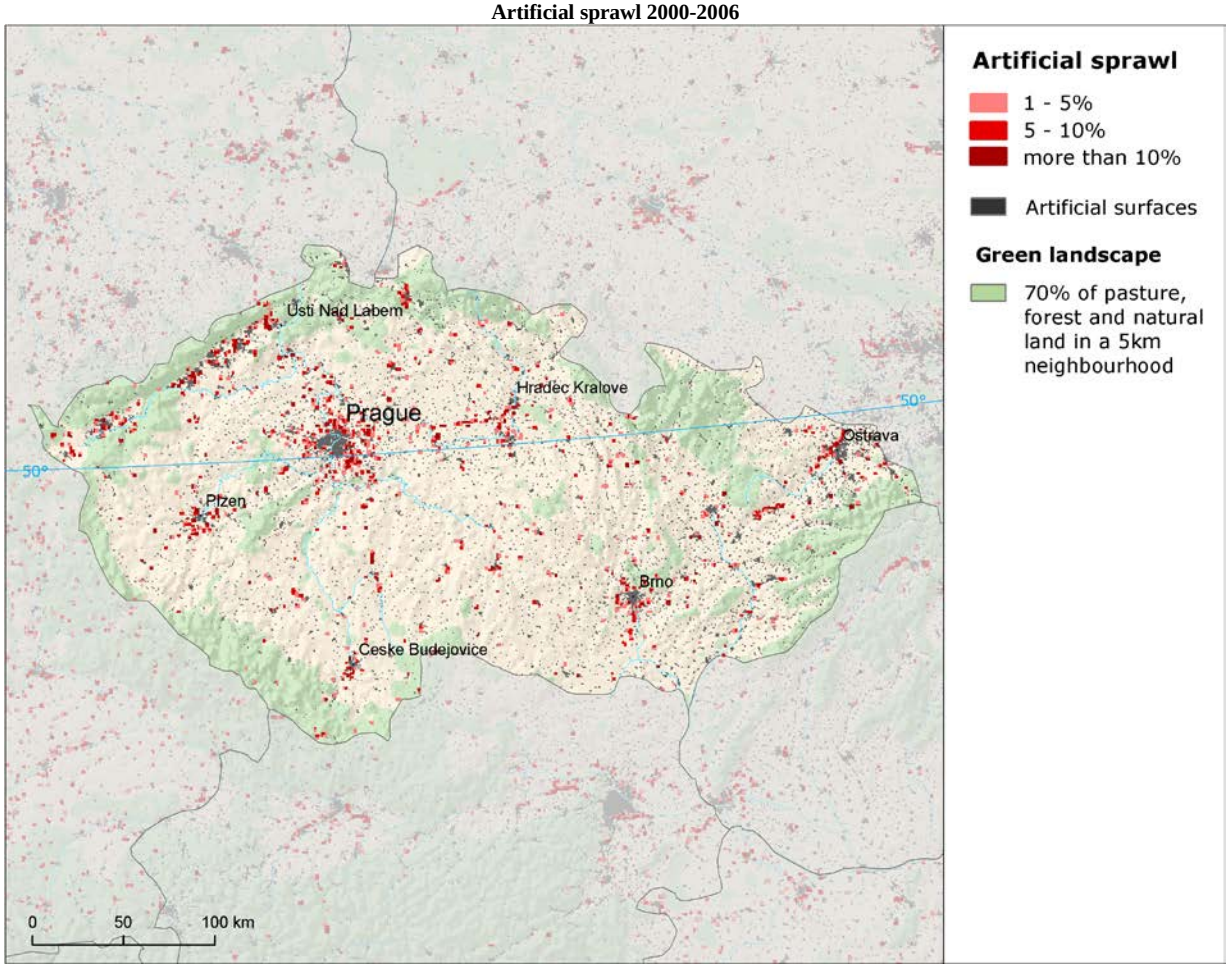
Artificial sprawl 2006-2012



Artificial sprawl 2000-2006



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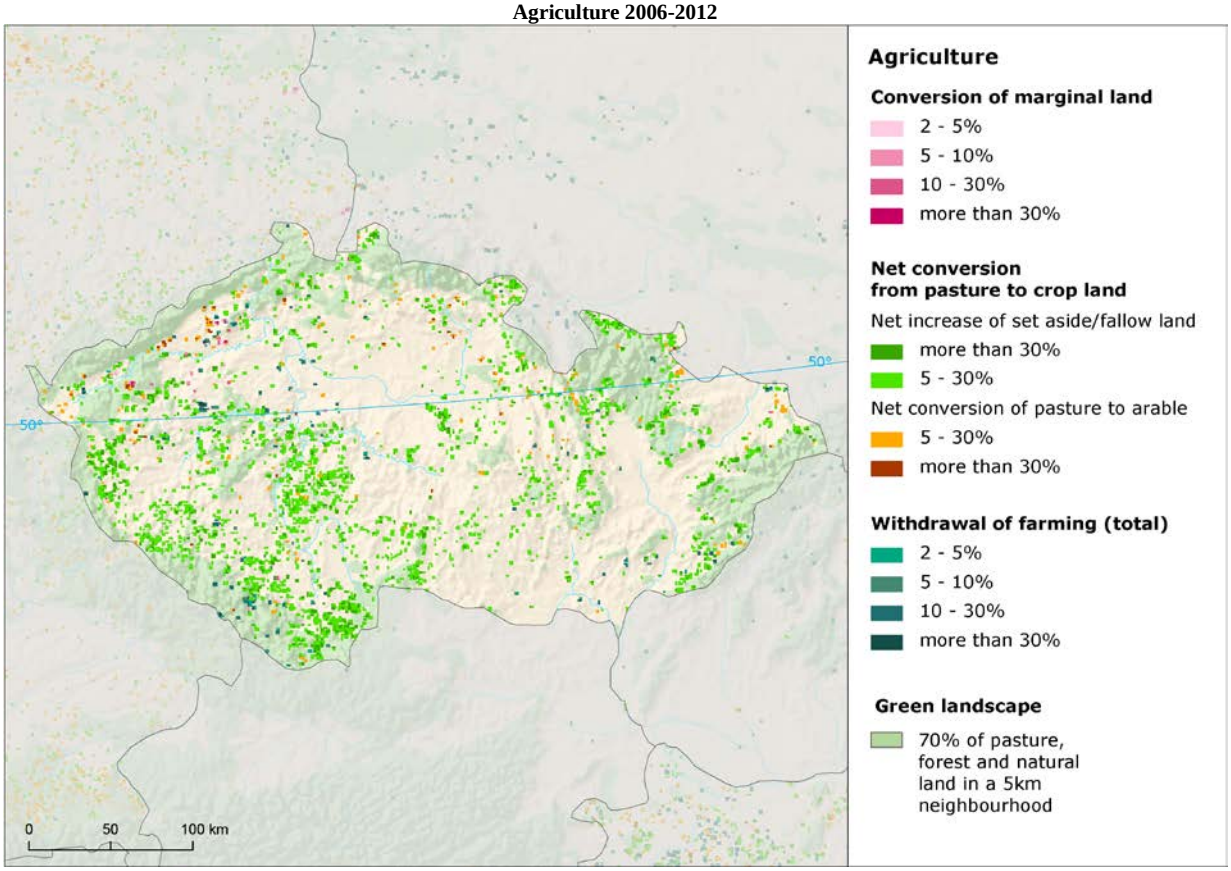
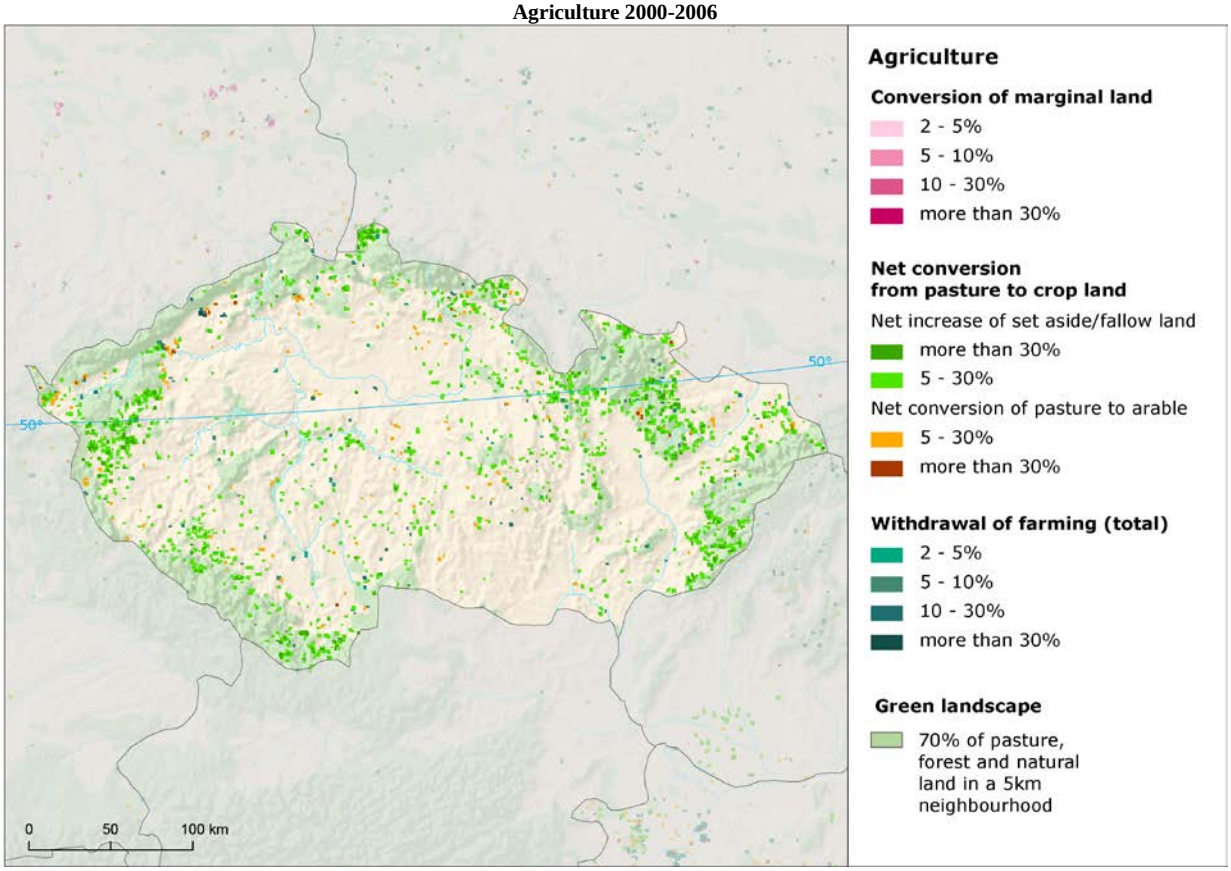
Agriculture 2006-2012



Agriculture 2000-2006



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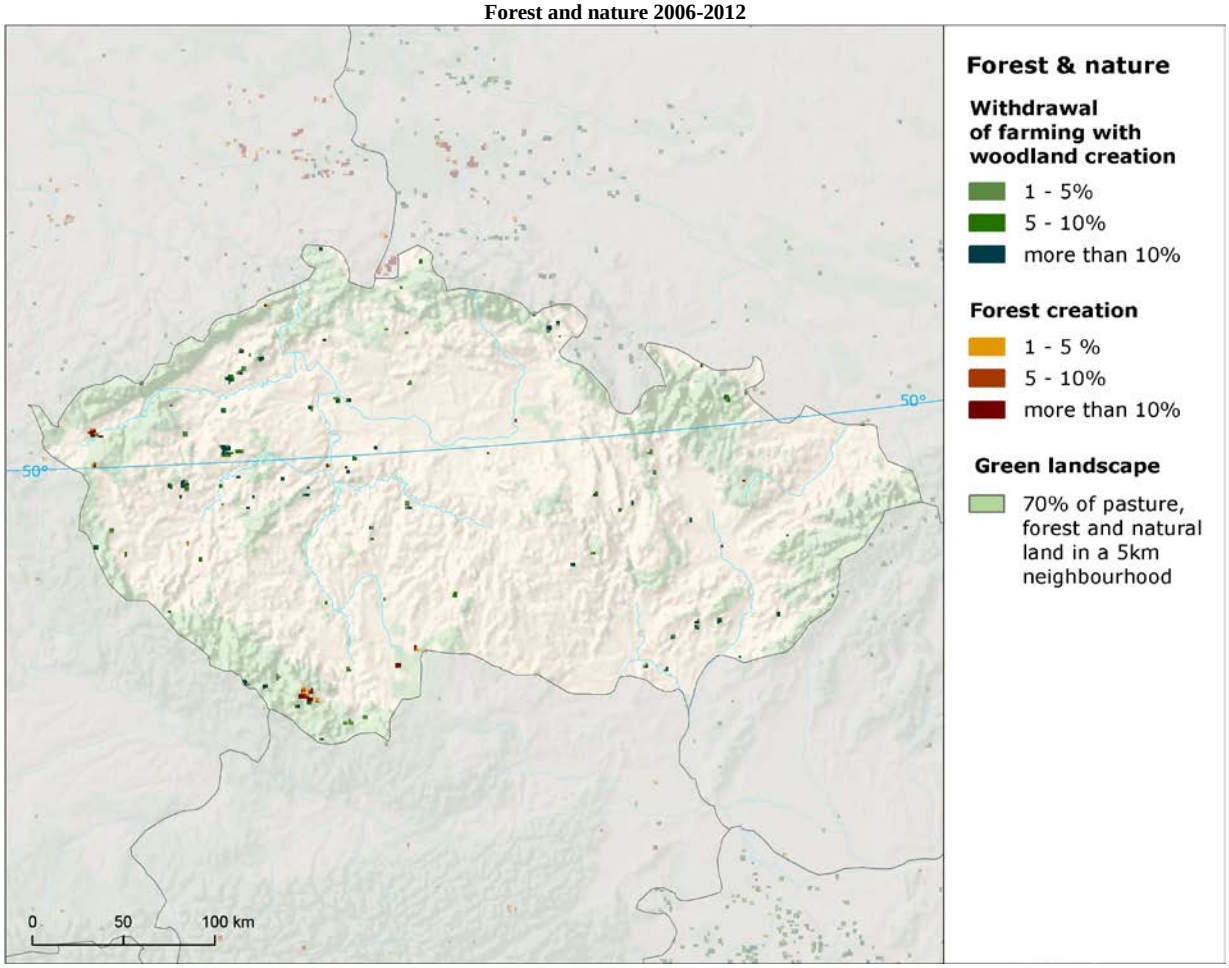
Forest and nature 2006-2012



Forest and nature 2000-2006