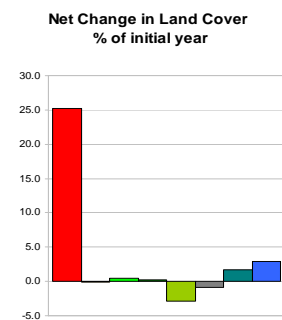
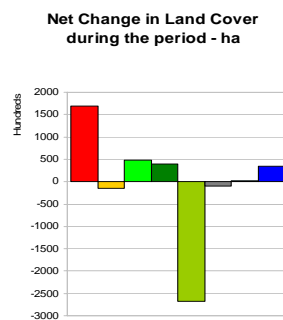
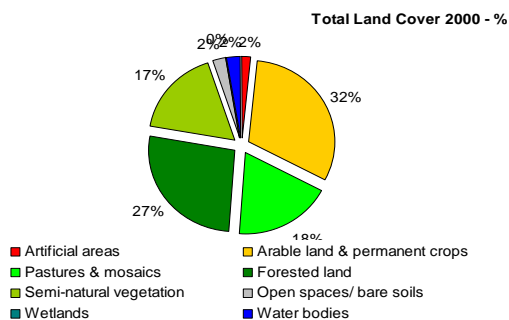


*Note* The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over the decade 1990-2000 - see Corine land cover programme for details. The principle of the mapping inventory is one of a consistent generalisation for both static and change data to provide a coherent geographical continuum across Europe. By definition, a generalisation may generate some accuracy deficiencies inherent to the methodology. These restrictions are acknowledged and have been documented in working papers available from EEA.

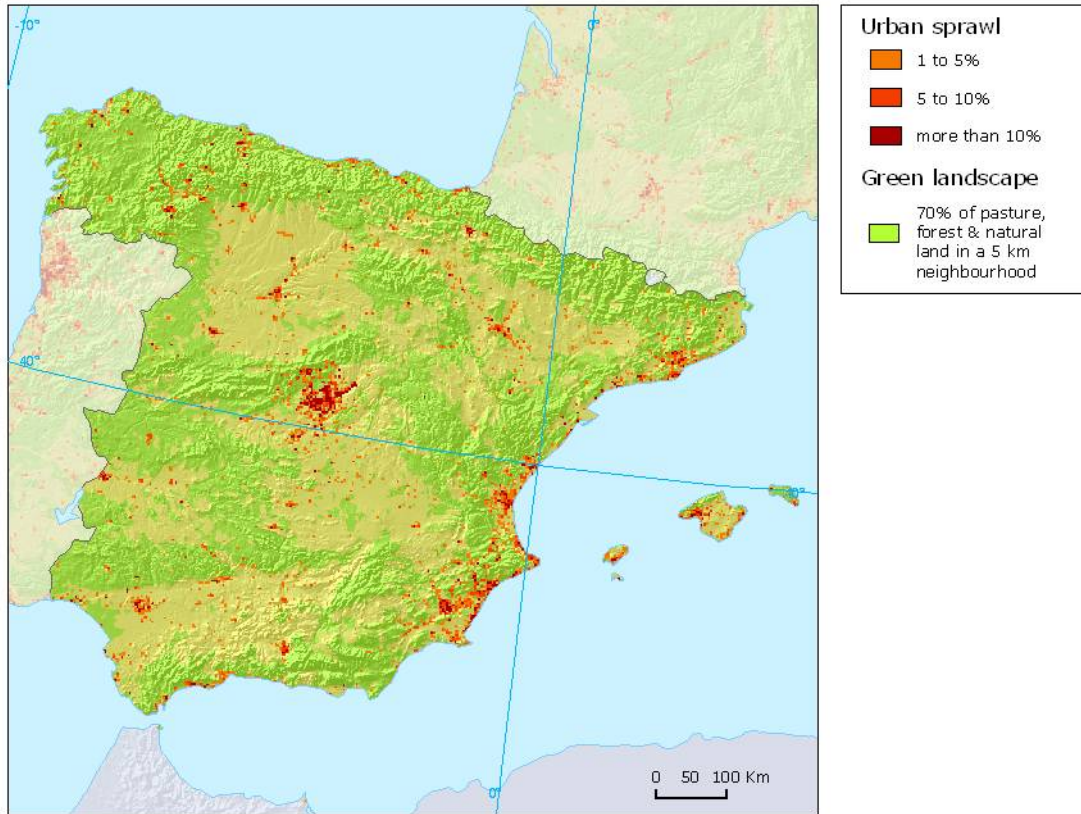
### Overview of land cover & change 1986-2000

The dominant landscape in Spain is still of rural character with large areas of natural or semi-natural vegetation. However, given the geographical specificities and historical development, there is extensive landscape variation across the territory. A notable trend is the increasing pressure from urban development: increase of artificial areas has been one of the main changes during the period 1986-2000, both in absolute and relative values, well above the average in Europe. On the other hand, there was a reduction in the extent of semi-natural areas, which are often related to marginal land. Forests, pastures and mosaics of vegetation (reflecting some degree of fragmentation) increased in area, whereas agricultural land has seen a reduction. There was also some increase in the extent of water bodies as a result of new dams.



	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces/ bare soils	Wetlands	Water bodies	TOTAL km <sup>2</sup>
<b>Land cover 1990</b>	6705	160309	94015	137320	91766	12733	1117	11839	515805
Consumption of initial land cover	212	6986	2536	8115	5000	958	9	35	23850
Formation of new land cover	1900	6830	3020	8511	2324	852	28	386	23850
<b>Net Formation of Land Cover</b>	<b>1688</b>	<b>-155</b>	<b>484</b>	<b>396</b>	<b>-2676</b>	<b>-107</b>	<b>19</b>	<b>351</b>	<b>0</b>
Net formation as % of initial year	25.2	-0.1	0.5	0.3	-2.9	-0.8	1.7	3.0	
<b>Land cover 2000</b>	<b>8393</b>	<b>160154</b>	<b>94499</b>	<b>137716</b>	<b>89091</b>	<b>12626</b>	<b>1136</b>	<b>12190</b>	<b>515805</b>

Urban

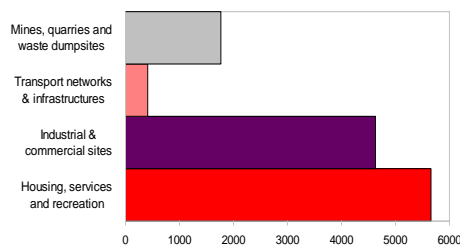


Urban sprawl on the Mediterranean coast and around major cities

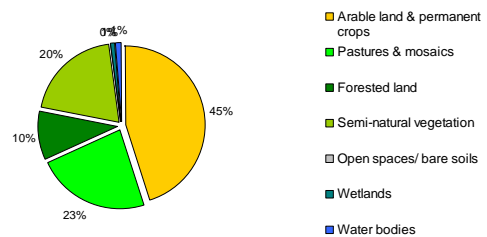
Urban sprawl in Spain has been driven by economic growth and tourism, resulting in increased number of households and second homes. This has primarily been observed along the Mediterranean coast and around major cities, most notably Madrid in Central Spain. Improvement of transport networks has facilitated the spread of new industries in less expensive land, mainly in the northern part of the country.

This urban sprawl is continuing, because half of the area identified as new mines, quarries and waste dumpsites were in fact areas under construction in 2000. However, some restrictions on land development have recently entered in force at regional level, aiming to curb excessive urban sprawl in the coming years.

Land taken by new artificial areas has been at the expense of agricultural zones and is often located on alluvial plains, resulting in a loss of very good agricultural soils. The large contribution of pastures, mosaics and semi-natural areas to urban development is partly related to the decline of agriculture in some rural zones operating near to the margins of economic viability.

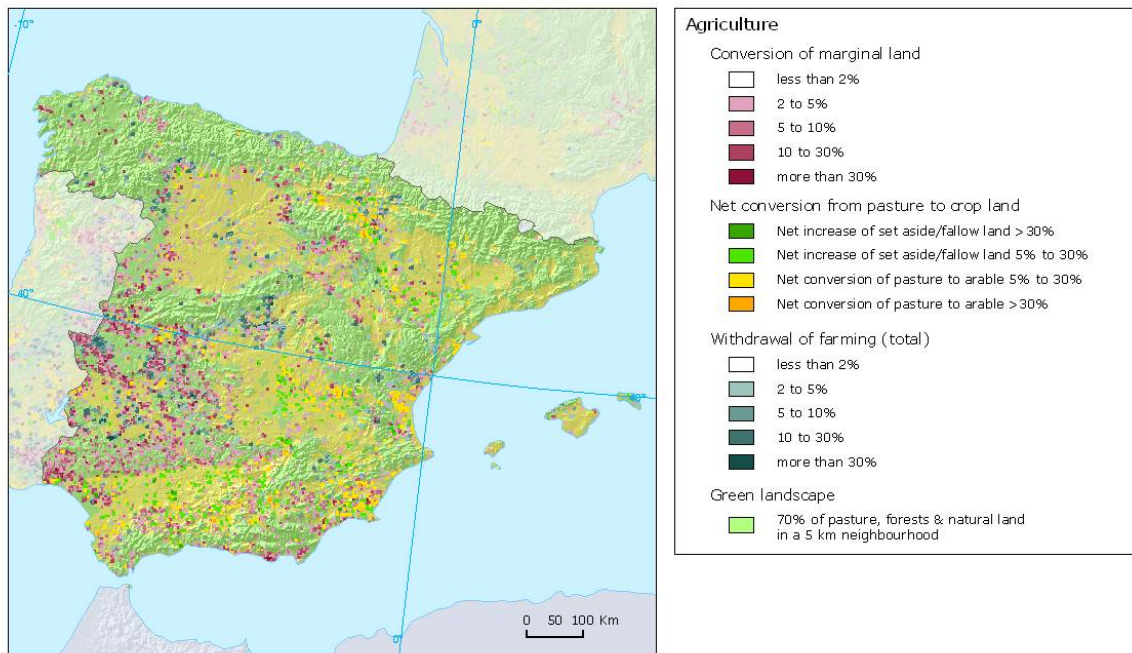


Drivers of urban land development - ha/year



Origin of urban land uptake, as % of total uptake

# Agriculture



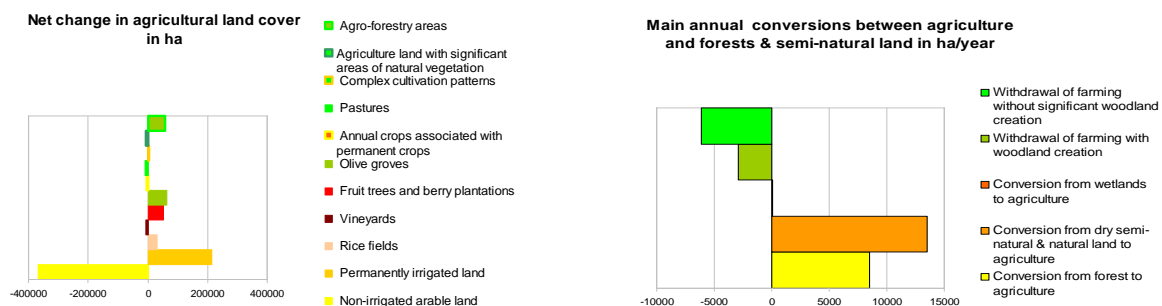
## Increase of irrigated arable land

The total area used for agriculture remained rather stable during the 1990s. However, major changes have been identified in the type of crops and allocation of fields. All these changes resulted in an increased intensification of agriculture, a trend that has stabilised in recent years as more environmentally friendly practices were promoted. For example, there was a progressive increase in organic farming (157% increase from 1990 to 2000).

The largest change has been the conversion of non-irrigated to irrigated arable land, as a result of several plans at national and regional level to increase agricultural productivity. This conversion has caused environmental problems such as salinisation due to improper irrigation management, and higher consumption of water in areas where this resource is scarce. There is a national plan for the next four years which includes improvement of irrigation efficiency. Other crops to see an expansion were olive groves, for which Spain is among the leading world producers, and agro-forestry areas of high cultural value (“dehesas”).

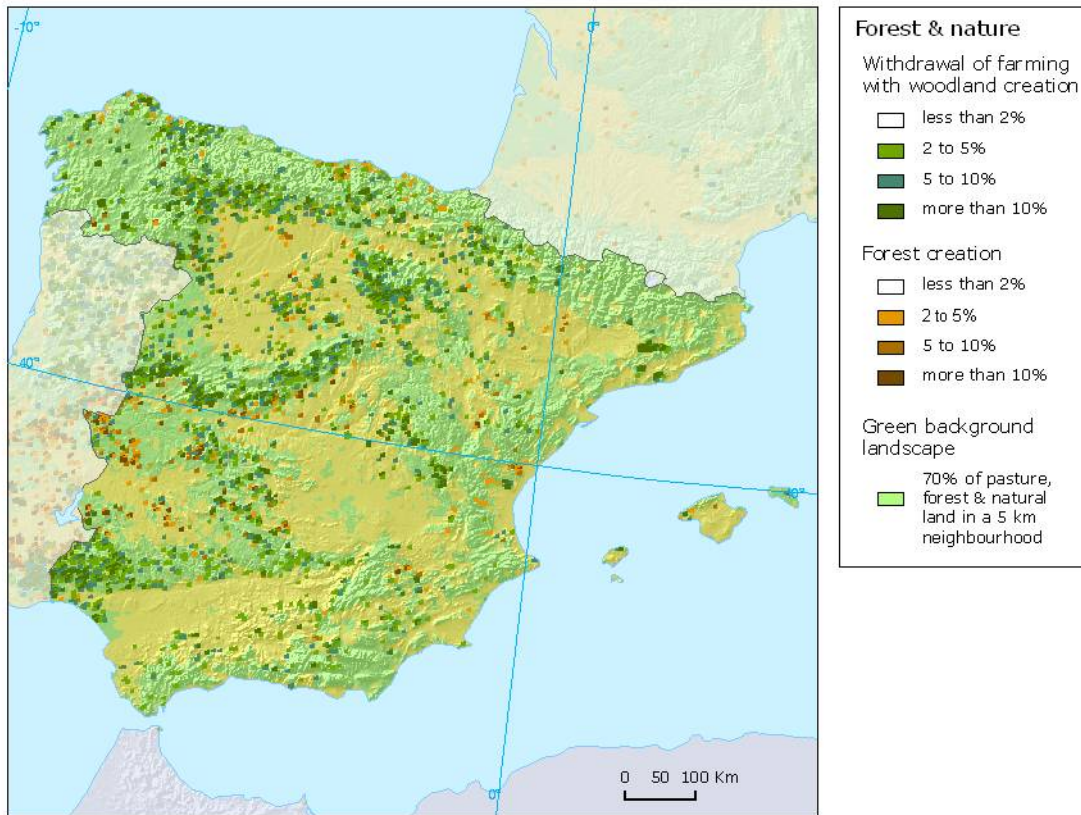
Afforestation of agricultural land has not compensated for the conversion of forest to agriculture. The loss of existing agricultural land to urban sprawl has generated demand for new agricultural land to replace that lost. There have been significant encroachments of more intensive agriculture into semi-natural areas, mainly in the south-western part of Spain, amidst a more widespread trend of increasing agricultural intensification.

Conversely, about 6000 ha of less productive and marginal land have been abandoned. Special attention should be paid to these zones to prevent soil erosion, which is affecting large areas of the country. Moreover, in the driest areas, abandonment may lead to desertification.





## Forest & nature



### Increase of forest territory, but also of marginal land

The total forest area has increased in Spain in the 1990s, a sign of the success of afforestation plans. Policies for protection of natural areas have also contributed to maintaining the most valuable forests, reaching 20% of the area in some regions. New forest areas have been mainly taken from transitional woodlands or dry semi-natural areas, reducing risk of land degradation. Half of this new forest territory comprises felled areas and transitional areas, which may cover zones affected by forest fires.

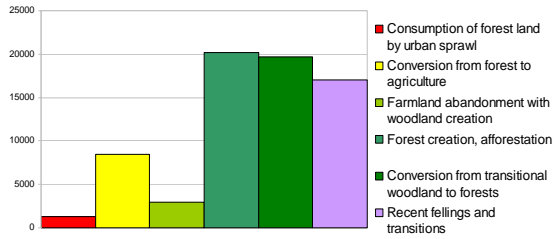
In addition, forest area affected by air pollution is steadily increasing. It is estimated that about 60% of coniferous forests are affected by some degree of defoliation.

Focusing on dry areas, a fragile balance can be observed between new forested land and other land cover changes which may enhance soil erosion; conversion to agriculture and increase of areas with low vegetation cover (farmland abandonment) are the most relevant. In the southern part of Spain it has been estimated that conversion of forest to agriculture can increase the risk of soil erosion by 25 t/ha/year on average.

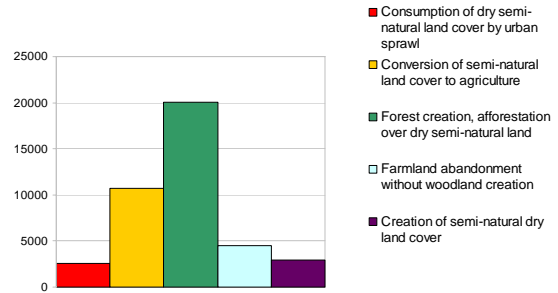
New forests increased the area of broad-leaved and mixed, rather than exclusively coniferous, forests. As a result, overall biodiversity should be increasing.

Regarding wetlands and water bodies, the main change is the increase of inland continental waters as a consequence of the contribution of new dams.

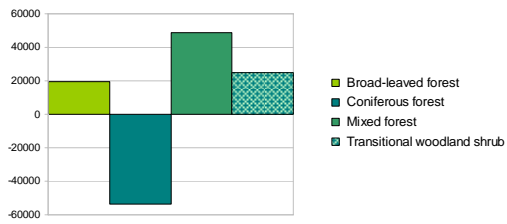
Main trends in woodland & forests consumption/formation, ha/year



Main trends in dry semi-natural land consumption/formation, ha/year



Net formation of forest and transitional woodland, in ha



Main trends in wetlands & water bodies consumption/formation, ha/year

