Opening Address

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- ✓ Basque Country

  Socioeconomic figures
  Climate, soils and land use
  Soil degradation processes
  Basque Government Policy related to forest sector

- ✓ Some messages about soils

Socioeconomic figures

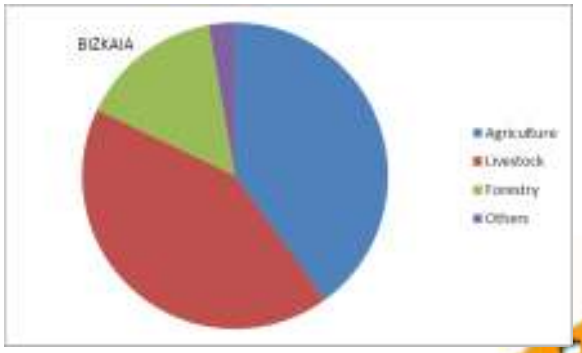
Basque Country

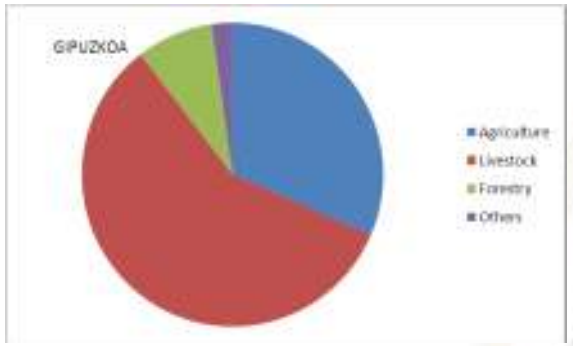
- **Surface area:** 7,234.8 km2
- **Population** (1st January 2013, INE): 2,191,682 inhabitants
- **Economic strength:**
  - **Per capita income** (2012): 29,460 Euros
  - **GDP Distribution** (2012):
    - Agriculture-fishing: 0.9%
    - Construction: 7.2%
    - Industry: 23.3%
    - Services: 68.7%.
    - **Tourism 5.3%**
  - **Gross Domestic Spending on RTD (% GDP) (2012):** 2.12%
  - **Unemployment rate (2013):** 14.6%
  - **Activity rate (2013):** 56.6%
  - **Crime rate (rate per thousand inhabitants) 2010:**
    - EU-15 average: 64.57
    - EU-27 average: 55.68
    - Spain: 48.86
    - **Basque Country: 41.40**

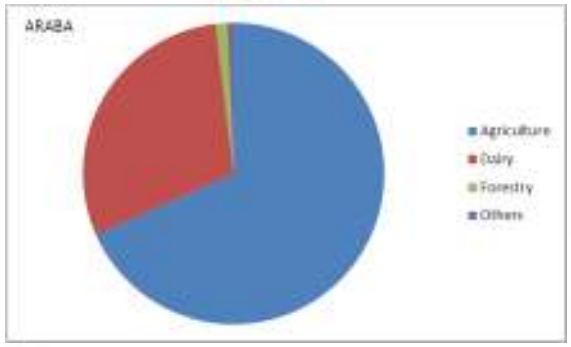
Population density: 303 inhabitants/km^2

Source: Gobierno Vasco

Final Agrarian Production







Source: Eustat

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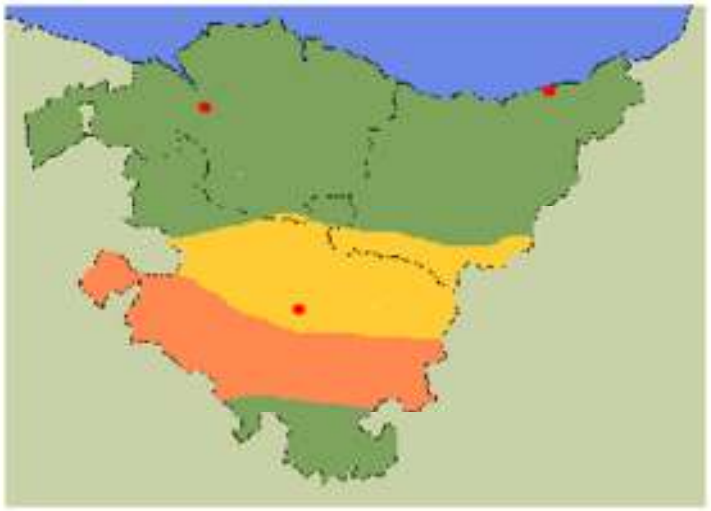
Climate, soils and land use

Basque Country

Moderate T

Atlantic climate

Very rainy (1200-2000 mm)



Transition climate

Hot summers and colder winters

Mediterranean climate

Lower rainfall (400-600 mm)

Source: Euskalmet

North (Gipuzkoa and Bizkaia)

Young soils

Mostly Cambisols (WRB, 2014)

Soil pH acidic or neutral

Small surface of Andosols

South (Araba)

More developed soils

Mostly Calcisols but there is a relevant surface of Vertisols

Soil pH neutral or basic

Small surface of Podzols

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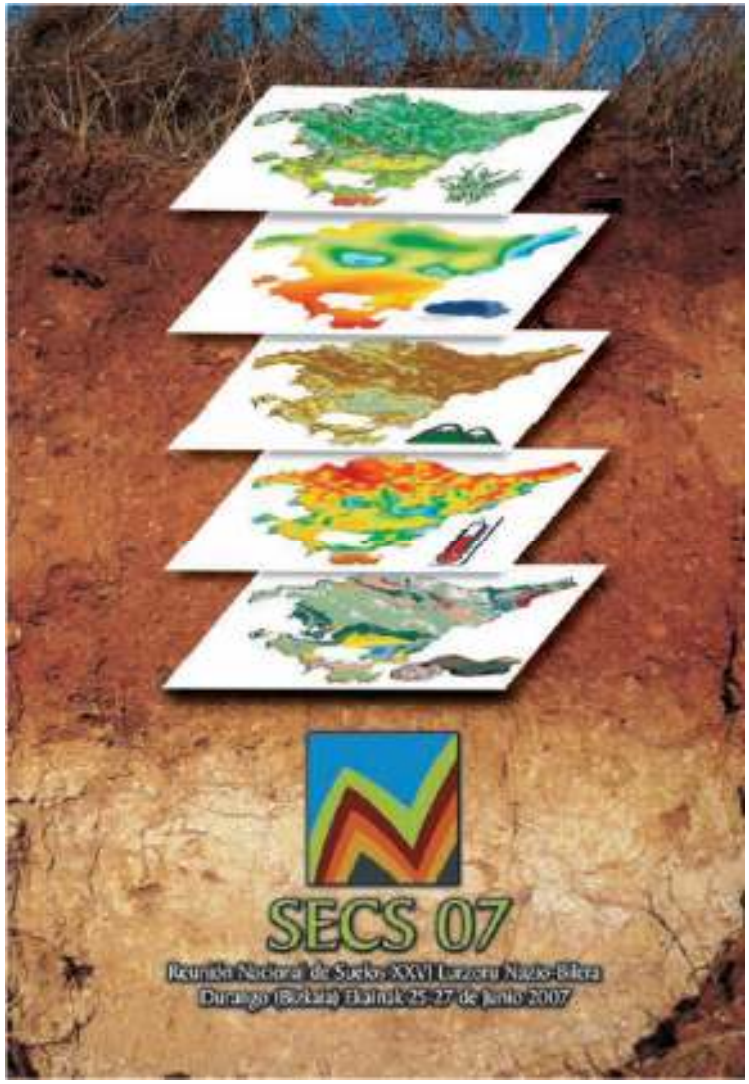

Libro de calicatas de la XXVI Reunión Nacional de Suelos. Durango (2007)
Camps-Arbestain et al., 2007

http://eusoils.jrc.ec.europa.eu/events/Conferences/2007/Spain_SECS.pdf

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Autor: Octavio Artieda

Umbrisol

Podzol

Autor foto: Jose Alvarez Rogel

Autor foto: Jose Alvarez Rogel

Andosol

Libro de calicatas de la XXVI Reunión Nacional de Suelos. Durango (2007)
http://eusoils.jrc.ec.europa.eu/events/Conferences/2007/Spain_SECS.pdf

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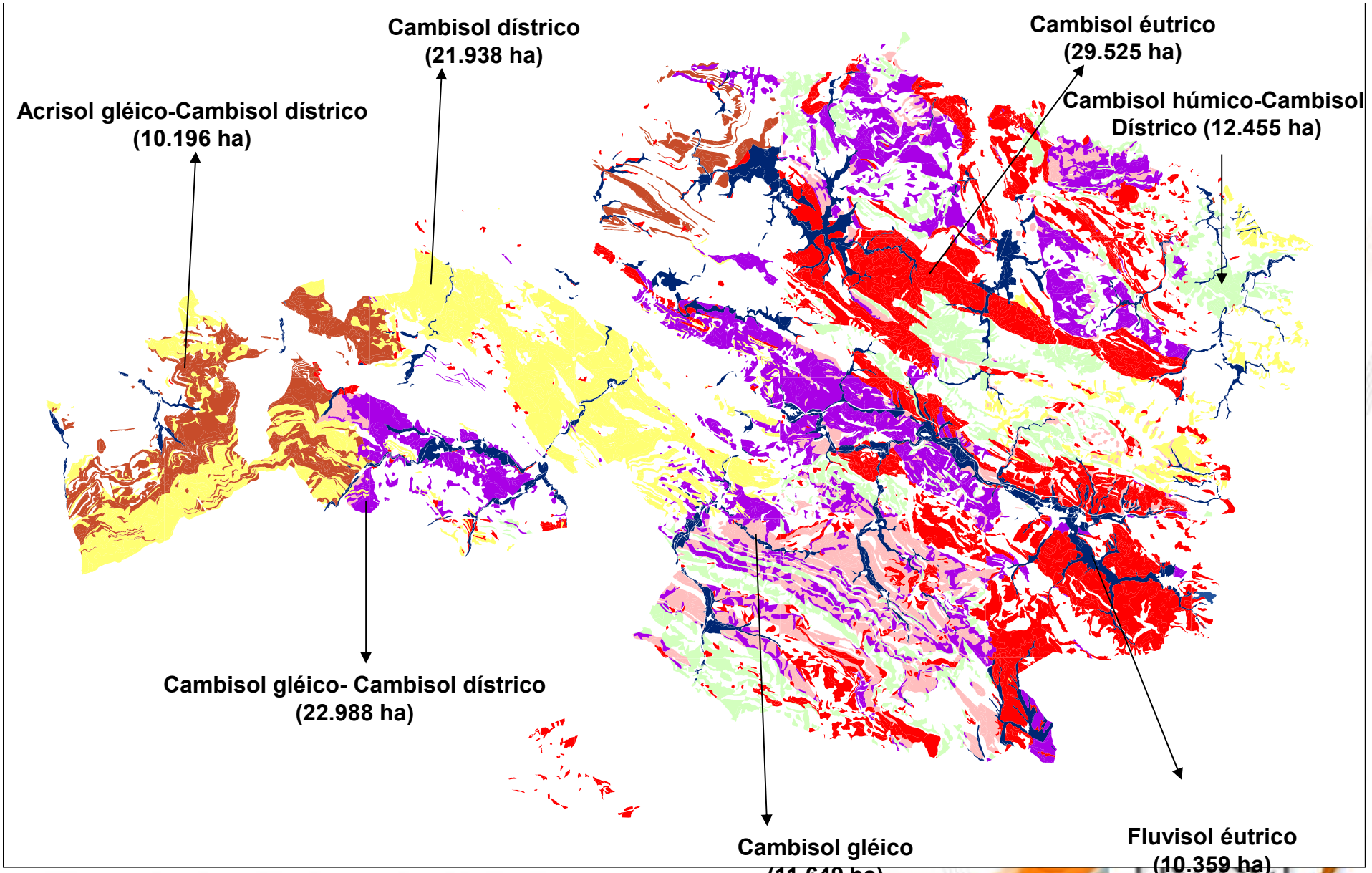
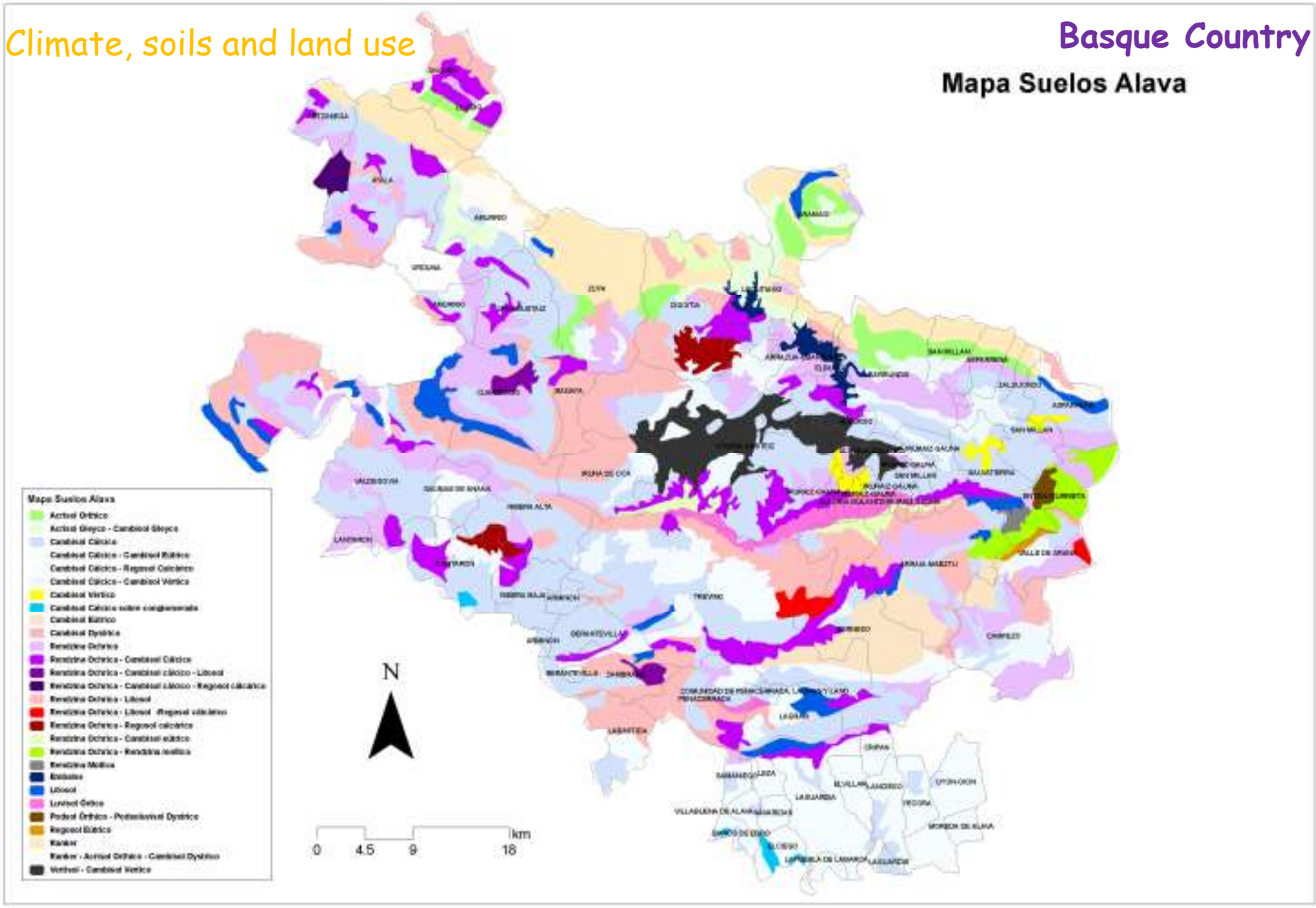
Mapa of soils of Bizkaia



Sistema de cartografía ambiental, GESPLAN

Climate, soils and land use

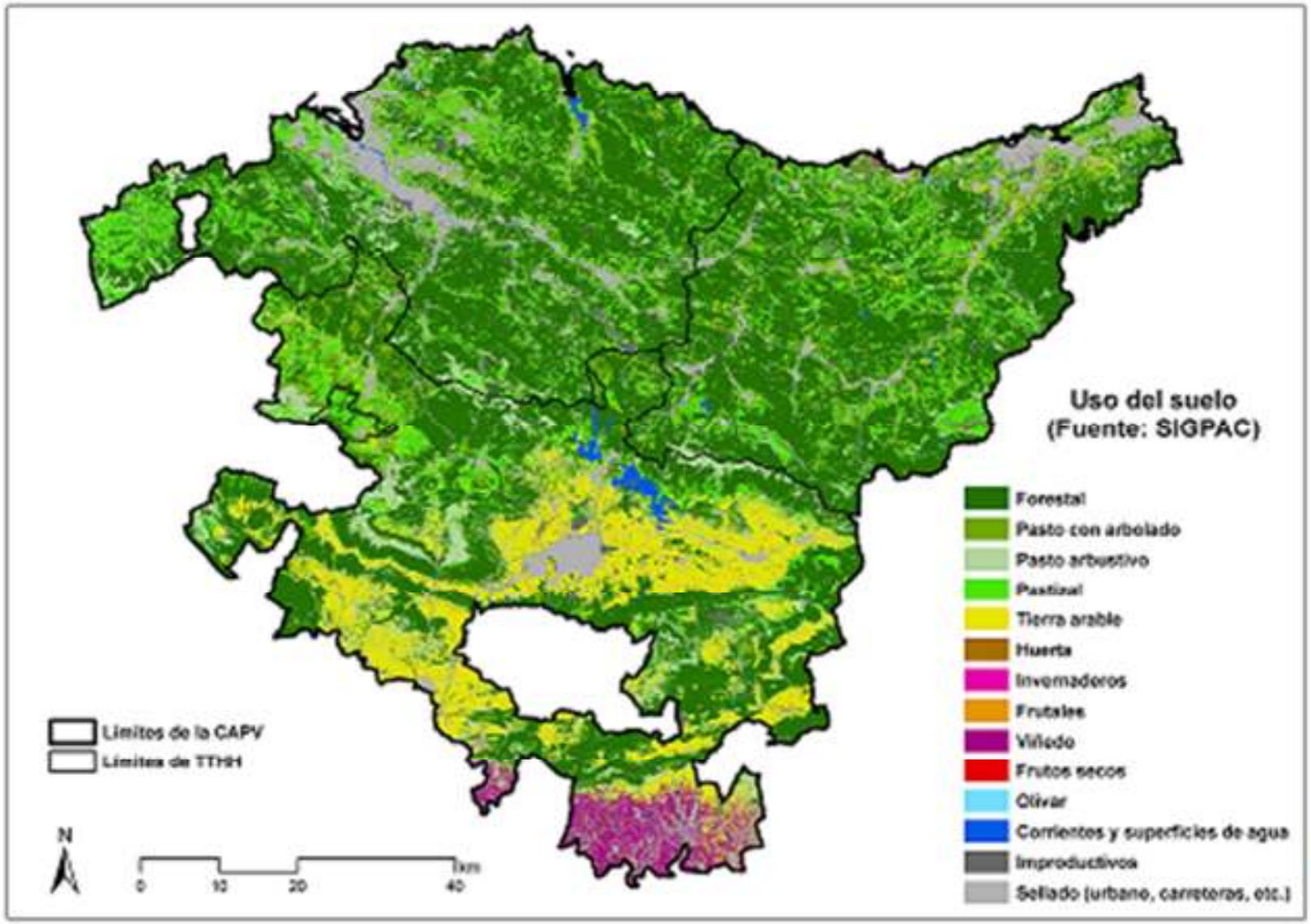
Basque Country



IÑIGUEZ HERRERO, J. Y OTROS: Mapa de suelos de Alava. Excma. Diputación Foral de Alava. Vitoria, 1980.

Climate, soils and land use

Basque Country



North (Bizkaia and Gipuzkoa) mostly forests and pastures

South (Araba) arable crops and vineyards

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Soil degradation processes

Basque Country

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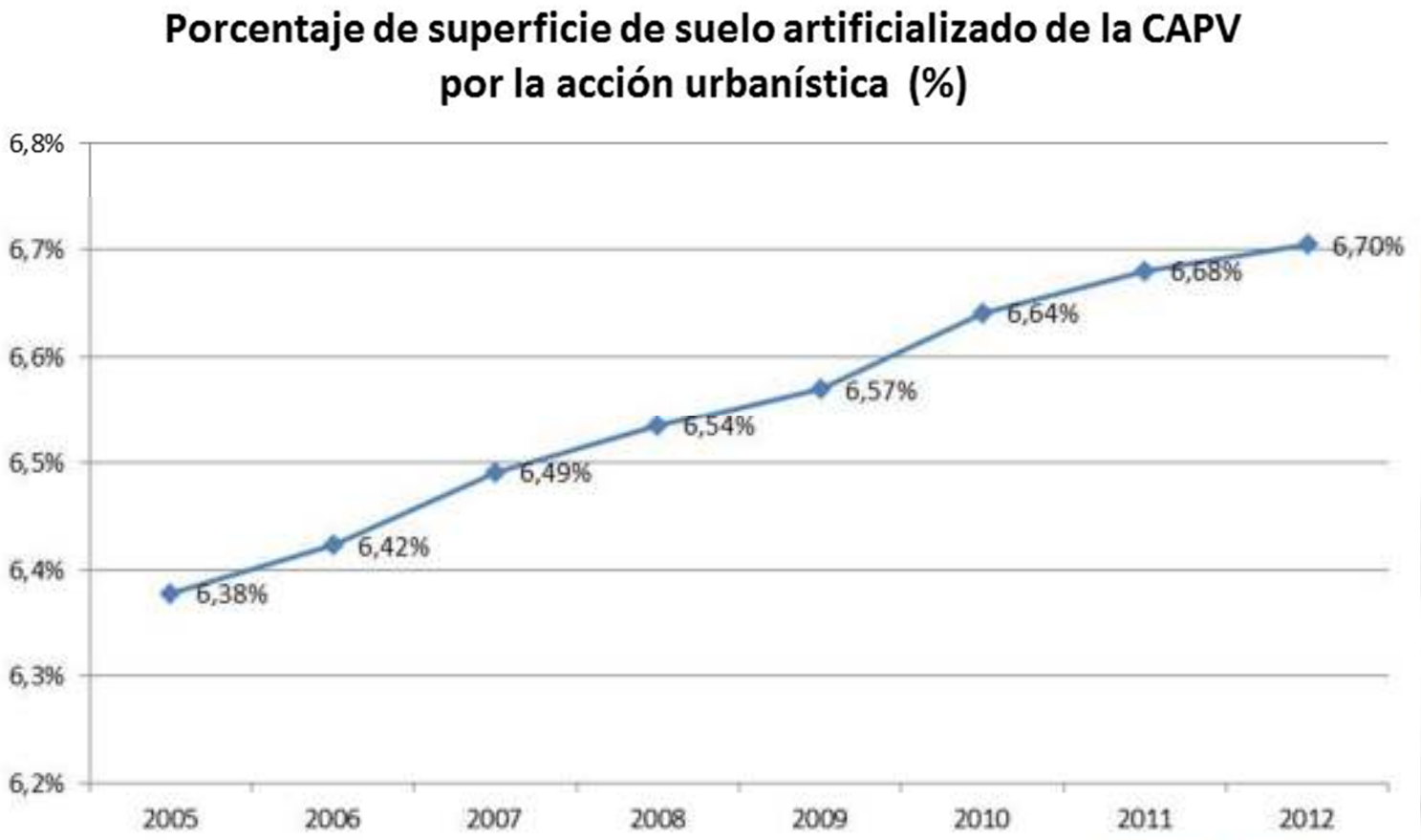
Sealing



Source: IHOBE, 2014. Perfil ambiental de Euskadi 2013

Soil contamination

- ✓ **The first cases of soil contamination were detected in the Basque Country in the early nineties, and they were the result of a long industrial history.**
- ✓ **Therefore, the Basque Government designed an action strategy for soil protection against pollution called "Plan director para la protección del suelo de la Comunidad Autónoma Vasca" in 1994. Subsequent actions carried out in this area were conducted according to the plan.**
- ✓ **Law 1/2005 on the prevention and correction of soil contamination of the Basque Country was approved in 2005. This law sets out the soil policy instruments available at the administrations to prevent the emergence of new alterations in the soil, providing solutions to the most urgent cases and planning the resolution of the rest.**

Source: IHOBE, 2008. Plan de suelos contaminados de la Comunidad Autónoma del País Vasco 2007-2012.

Soil contamination

"Inventario de emplazamientos con actividades potencialmente contaminantes del suelo de la Comunidad Autónoma del País Vasco" identified more than 5000 sites whose activity is likely to contaminate the soil (about 7898 ha)

Source: IHOBE, 2014. Perfil ambiental de Euskadi 2013

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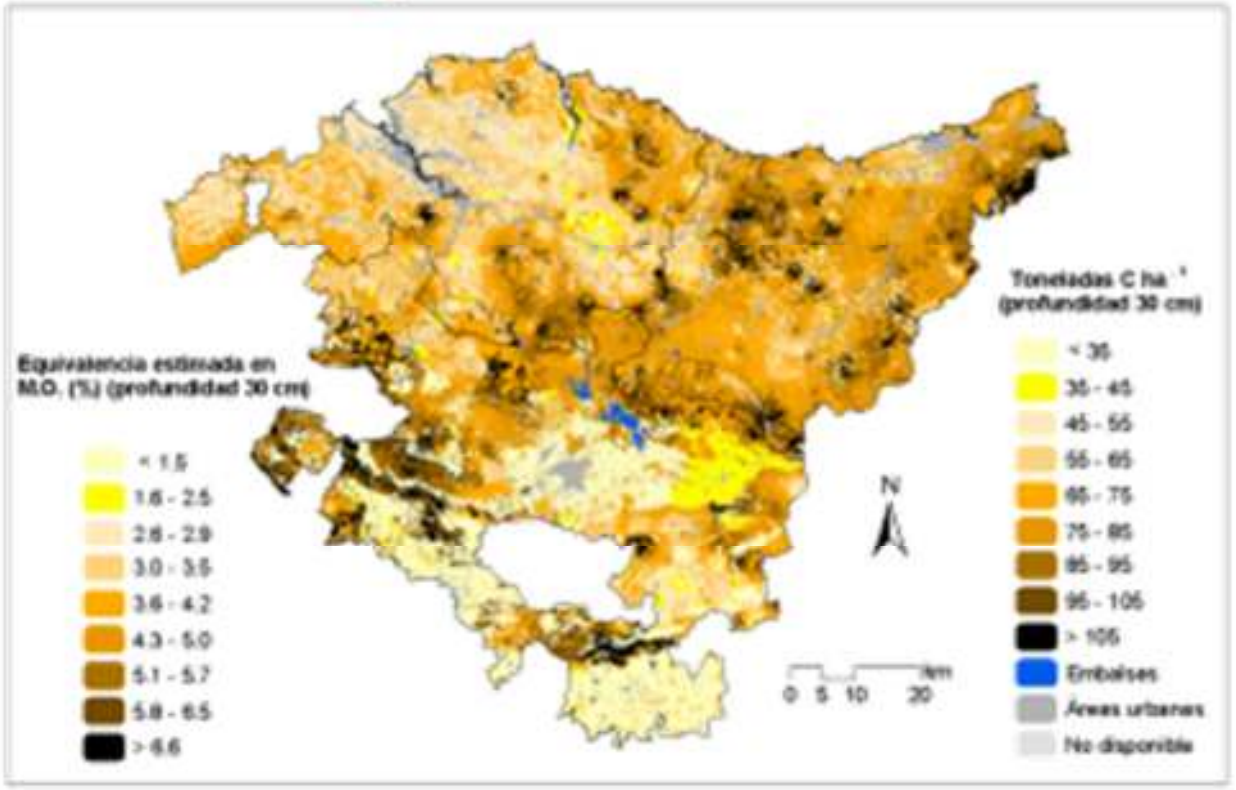
Soil contamination

Source: IHOBE, 2014. Perfil ambiental de Euskadi 2013

Loss of organic matter



Soil organic carbon content in Araba is low where arable crops and vineyards are located

However, recently the Basque Government (Agriculture Department) helped to build some structures to storage slurry and there are interesting agreementes between livestock farmers and farmers, and he use of organic wastes coming from livestock farms in arable crops is increasing.

Source: IHOBE y NEIKER, 2005. Inventario de C orgánico en suelos y biomasa de la Comunidad Autónoma del País Vasco. Serio Programa Marco Ambiental nº 48. Abril. Disponible en http://bit.ly/KioKPL

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Soil erosion

✓ Appart from forest soils, vineyard soils mostly located at the south part of Araba (DO Ca Rioja) are vulnerable to erosion

✓ The slope, the climate and the intensive tillage to keep the soil free of weeds are factors Increasing the risk of erosion on vineyard soils

The Basque government considers Multifunctionality and Sustainability

two essential aspects of the forest activity

Multifunctionality

Forest systems serve several functions in addition to producing forest products that are essential to maintain an important economic activity for the country. Besides our forests are:

A physical space where a culture is developed

The basis of an ecosystem with lots of functions that we want to preserve and improve. Among these functions those related to the carbon cycle.

Providers of clean basic natural resources (water, air and soil)

Space for leisure

Sustainability

As a result of the society's concern to reconcile productive and non-productive forest functions the concept of sustainable forest management arises

This concern for the sustainability of the forests is manifested through the implementation of forest certification systems such as PEFC (Pan European Forest Certification) that sets guidelines for sustainable forest management. Around 77,000 hectares of forest are nowadays certified to PEFC in the Basque Country

The aim is to keep both the sector and the ecosystem fit enough to perform the previously mentioned multifunctionality

- ✓ **To achieve this objectives the Basque Government develops policies related to forest through basic (University of the Basque Country UPV-EHU and Neiker), applied research (Neiker) and sectorial development.**

- ✓ **Finally it should be noted that the Basque Government acts from a whole sectorial perspective, including the biomass management and production, the services related to silvicultural works and timber harvesting, and the transformation of wood.**

- ✓ **In this sense one of the strategic lines of research that the Basque Government wants to promote is the development of forest products with high added value. The achievement of this objective clearly requires coordination among all the forest sub sectors**.

Some messages about soils

Soil functions

- ✓ **Soil is the medium that enables us to grow food for people and animals, natural fibres, timber for fuel, construction and other uses, and it supports wild life.**
- ✓ **Soil provides the foundation on which we construct buildings, roads and other infrastructures and provides a range of raw materials**
- ✓ **Soil is a biological engine where dead plant and animal tissues, and other organic wastes, are decomposed to provide nutrient that sustain life.**
- ✓ **Soil plays a crucial role in regulating a number of life-sustaining natural biological and chemical cycles (ecosystem services).**
- ✓ **Soil is a natural filter that neutralises certain pollutants by transforming them or accumulating and absorbing their toxicity.**
- ✓ **Soil protects our buried heritage e of archaological and historic remains from damage and depletion.**

Source: Joint Research Centre. Institut for environment and sustainability. 2012. The State of Soil in Europe.

Some messages about soils

The soil is not a renewable resource beacause soil-forming processes tend to be slow

Even if the soil functions are fundamental to our society, soil is hidden and not easy to observe, so society is not aware of how important its preservation is

Therefore, it is very important to pass on the message of soil protection to land users, policy makers and society

We have to send simple and simple and understandable messages

Soil monitoring schemes are fundamental to enhance and restore the functioning of soils, quantify changes in soils, etc

CONDEGRES

VII Simposio Nacional de Control de la Degradación y Restauración de Suelos

22-26 de Junio de 2015

Bizkaia Aretoa
Bilbao

2015

International
Year of Soils