

PORTUGAL



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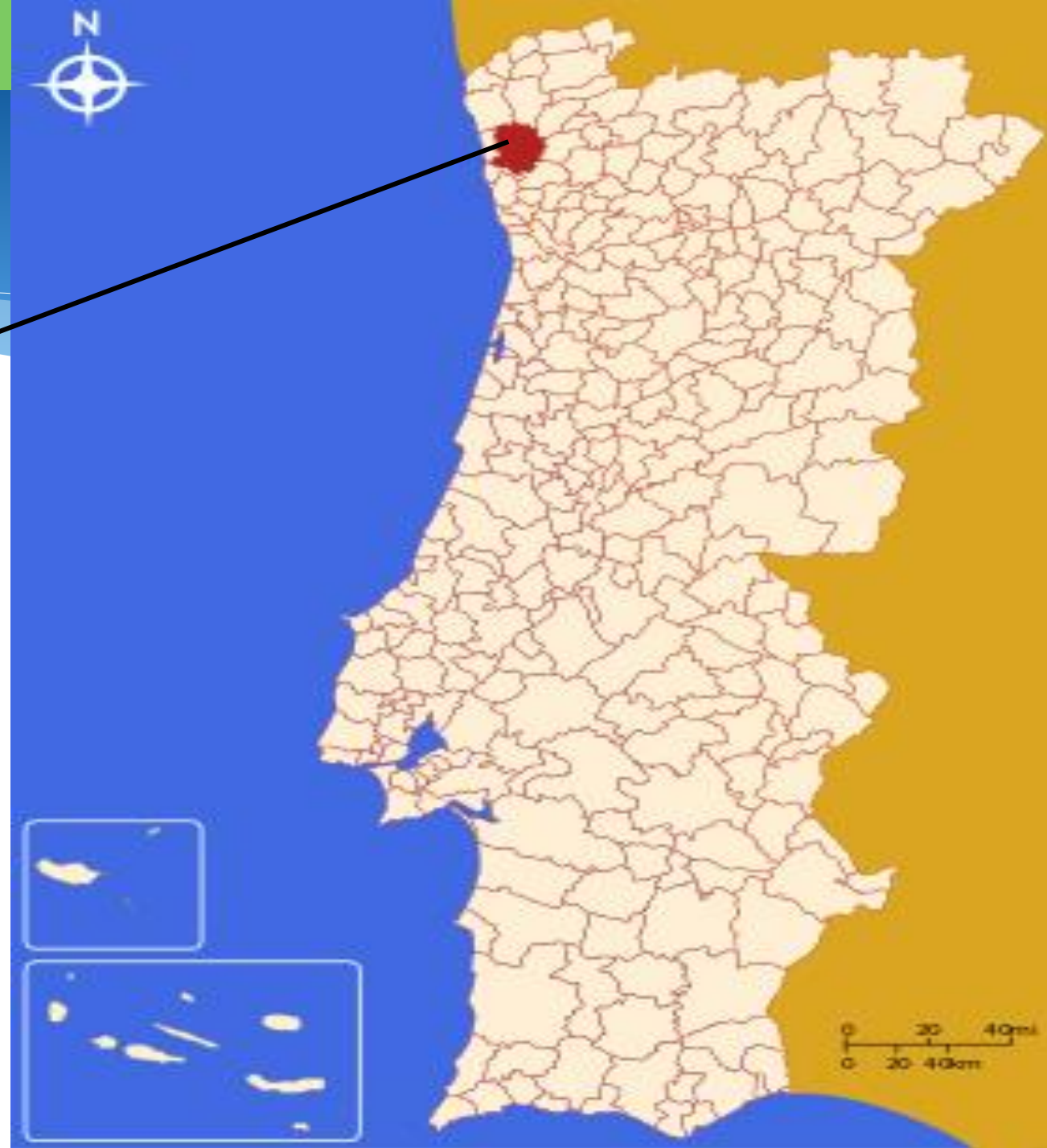


**10,46 Millions
habitants**

BARCELOS:

**Town located in the north of Portugal, in
the region of Minho**

**Located 40 km from Porto
and
360 km from Lisbon**





TOWN: BARCELOS

AREA: 378,9 KM²

POPULATION: 20 625 HABITANTS





1888 -1977



MARKET PLACE





ESCOLA BÁSICA ROSA RAMALHO





Climate Changes In Barcelos

Climate Changes in Barcelos

- ✓ Like all over the planet, the effects of global warming are the environmental problems which affect Barcelos the most;
- ✓ Global Warming is caused by the increase of greenhouse gases;
- ✓ The greenhouse effect is inevitable, because without it life on earth would be impossible, however, when it becomes uncontrolled, it causes environmental imbalances;
- ✓ Unfortunately, current technology is not developed enough, so that greenhouse gases can be reduced.

Let's focus on some examples ...



Main Events

Just like everywhere else on the planet, the city of Barcelos also suffered from climate changes, such as:

- ❖ The arrival of new of animal and vegetable species;
- ❖ Weather Disturbances.



Motor vehicles

- ✓ As in all developed countries, motor vehicles are the main vehicles used in Portugal.
- ✓ These means of transportation emit large quantities of polluting gases into the atmosphere.
- ✓ In 2015, in Portugal, an average of 53,868.5 tonnes CO₂ was issued.
- ✓ Fortunately, there are alternatives to this problem, like electric cars!
- ✓ Nevertheless, not everyone can afford to buy that kind of cars...

Burnings



- ✓ Burnings consist of burning vegetable materials and sometimes also plastics.
- ✓ This is an activity performed, especially during Autumn, mainly by older people.
- ✓ They do it almost unconsciously since they do not think about its impact on the environment, that is, contributing to the increase of greenhouse gases in the atmosphere ...



Trash on the streets

Even though in Portugal there is an increasing concern regarding cleaning, there are always people throwing all kind of paper and plastic on the floor.



Household/domestic discharges

- ✓ Unfortunately and despite being illegal, in Barcelos they make household/domestic discharges into the river ...



Introduction

and expansion of new species in Portuguese territory

- ✓ The hot and cold air streams are changing, just like the ocean currents and animals' migratory travels . Due to that, the area of their comfortable temperature zone is changing.
- ✓ As a result, in Barcelos, there are new species never seen before, a phenomenon that happens worldwide and which is caused by global warming.



Water Hyacinth

- ✓ This aquatic plant was brought to Barcelos from the Amazon rainforest and its an invasive species.
- ✓ Domestic water feeds the Water Hyacinth.
- ✓ Causing a high impact on other living beings, it can suffocate fish and prevent them from ingesting their usual aliment.
- ✓ The Water Hyacinth increased because there is a bigger concentration of nutrients due to the drop of water level, which was not accompanied by a drop in water temperature.

Impact of climate changes in Barcelos

- * Forest destruction;
- * Pollution of the river Cávado;
- * Reduction of river water level;
- * Changes in rainfall patterns;
- * Floods.

Agriculture and Livestock Farming in the County of Barcelos

The Benefits:

- * The economic value 45M/month
- * Job creation
- * Community Enrichment
- * Food production (milk and meat)

Disadvantages:

- * High consumption of drinkable water;
- * The release of greenhouse gases, CH₄;
- * Erosion of soils (drought and abrasion by ruminant);
- * Increased use of pesticides
- * Non-sustainable farm:
 - Biodiversity decrease and
 - Increase of transgenic products
 - Increase in the use of pesticides

Are we still on time?

- * Abandon fossil fuels;
- * Selective garbage collection;
- * Reforestation;
- * Removal of invasive species;
- * Not wasting water.



