

PERCEPTION OF CLIMATE CHANGE AND ENVIRONMENTAL SUSTAINABILITY

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The Azores is an archipelago with an area of 2,325 km², spread over 9 islands, located in the North Atlantic Ocean. This archipelago is at a distance of 1,600 kilometers from mainland Portugal. The São Miguel island is known as green island, it is the largest one of the archipelago, and in this island there are approximately 137 thousand residents.

In this article, we start from a current problematic - climate change and environmental sustainability. Among the various methodological options in the research field, we used the questionnaire survey. This research process aims to collect valid and reliable thematic information, obtained from the individual answers given to a set of questions, by randomly interviewed individuals. Using these answers, it is possible to produce concrete conclusions of being generalized to the universe of the study population.

From the late nineteenth century onwards, the possibility that humanity could change the climate as a result of the emission of large amounts of carbon dioxide into the atmosphere due to the increase in industrial and transport activities began to be considered. The scientific community is known to confirm the anthropogenic change in climate.

The motivation of the problem addressed in this study is very current, because we are far from a trajectory that would hold warming to below 1.5°C, the point at which, scientists say, the impacts of climate change become devastating. Rather, we are on course for an average temperature increase of more than 3°C, an undoubtedly catastrophic prospect for people and nature. Also, regular measurements of atmospheric CO₂ from the late 50's of XX century shows a regular increase of this atmospheric trace component. The same trend is observed in many remote sites, including Serreta at Terceira Island in Azores and Mauna Loa, (Figure 1).

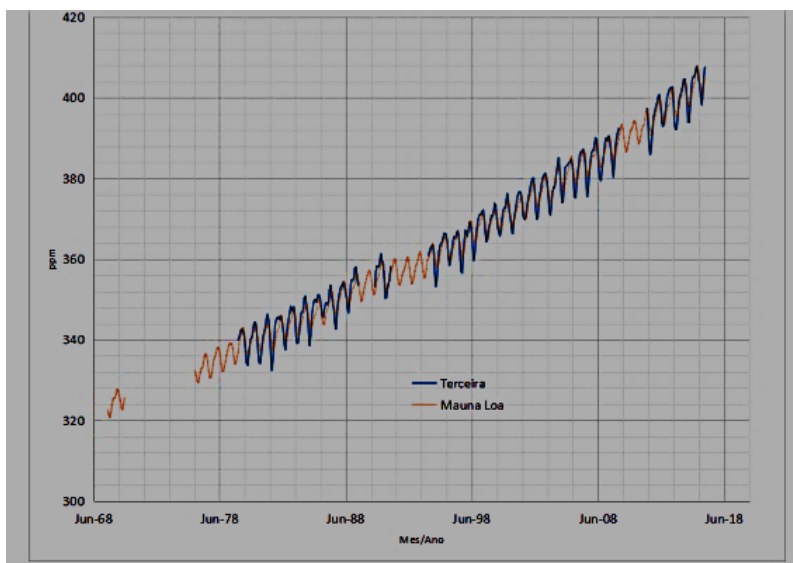


Figure 1. Monthly averages of CO₂ mixing ratios at Serreta site (Terceira Island - Azores) and Mauna Loa. (WDCGG-NOAA/ESRL).

Furthermore, global carbon budget shows that every year an excess of 3×10^{15} g of Carbon due to an excess of CO₂ yearly accumulation due to the burning of fossil fuel by anthropogenic activities. Therefore, greenhouse effect is a well known natural process, but anthropogenic CO₂ increase is also contributing for an extra warming - Global Warming. Consequences of the situation include a steady rise in temperatures, extreme weather events, increased water stress, rising sea levels and changes in marine and terrestrial ecosystems.

The Azores has followed the global trend, specially in the North Atlantic basin, of increasing temperature: higher temperatures, less precipitation and more intense climatic phenomena. During the last 18 years, there has been a positive trend of 0.12 K decade. As for precipitation, there is a negative trend of -133 mm/decade. These results shows that climate is already changing in the Azores and that this change is likely due to the Climate Change.

In the area of sustainability, Portugal must take advantage of the green economy, conserving and valuing natural resources, and establishing green and smart mobility, based on low ecological impact technology. The substantial reduction in the cost of batteries in recent years, the commitment of car manufacturers to this technology with the increasing availability of new models on the market, the existence of ambitious emission reduction targets for new vehicles, makes electric mobility a major issue.

Two hundred people participated in this survey, with aged between 17 and 60 years old, although the vast majority belong to the age group between 17 and 24 years old, with 60% being university students. Of the 200 respondents, 63% are female.

It was found that there is a concern about the future climate, but there is no great perception of the present phenomena relating them to the past. Of the questions that were the object of study in this survey, which showed 100% agreement, was the question regarding the concern of the sample about global warming. There is an awareness that man is contributing to the climate change we are experiencing. It was noted that most respondents are environmentally conscious, willing to change habits, and purchase alternative products that contribute to the green economy. There is concern about the preservation of the natural resources of the region, phase to the growing number of tourists, who have visited the islands. Regarding electric mobility, the population is not very awake for this transportation solution.

