



CLIMATE DETECTIVES 2020 – 2021

EVERYTHING IS AHEAD?

Detectives rurales
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RESEARCH QUESTION

Does climate change modify our crops?

SUMMARY OF PROJECT

We are a group of students in Dúrcal, a town near Granada, Spain, in the middle of Lecrín Valley. The main activity of our region has been agriculture, although in recent times many people work in other fields such as construction or services. However, agriculture is still an important activity in our valley and almost every family owns a piece of land to cultivate.

We are constantly listening to the news about the effects of climate change, and many times we have heard farmers saying that the harvests are coming early or that the rain is increasingly scarce. That is how we started to wonder if we could see how climate change has affected the crops in Lecrín Valley.

Then, we decided to investigate on our own and to contrast data with official sources to check if their perception coincided with reality.

First of all, we collected data about temperatures and rainfall from the meteorological station located in Padul, which is the closest to our study area. Then, we prepared a survey to ask locals about their opinion about changes that had taken place in agriculture in Lecrín Valley. Additionally, we looked for some satellite images to check if the cultivation area was in good condition. Finally, we visited a cooperative in our town and collected data about some crops in the last fifteen years.

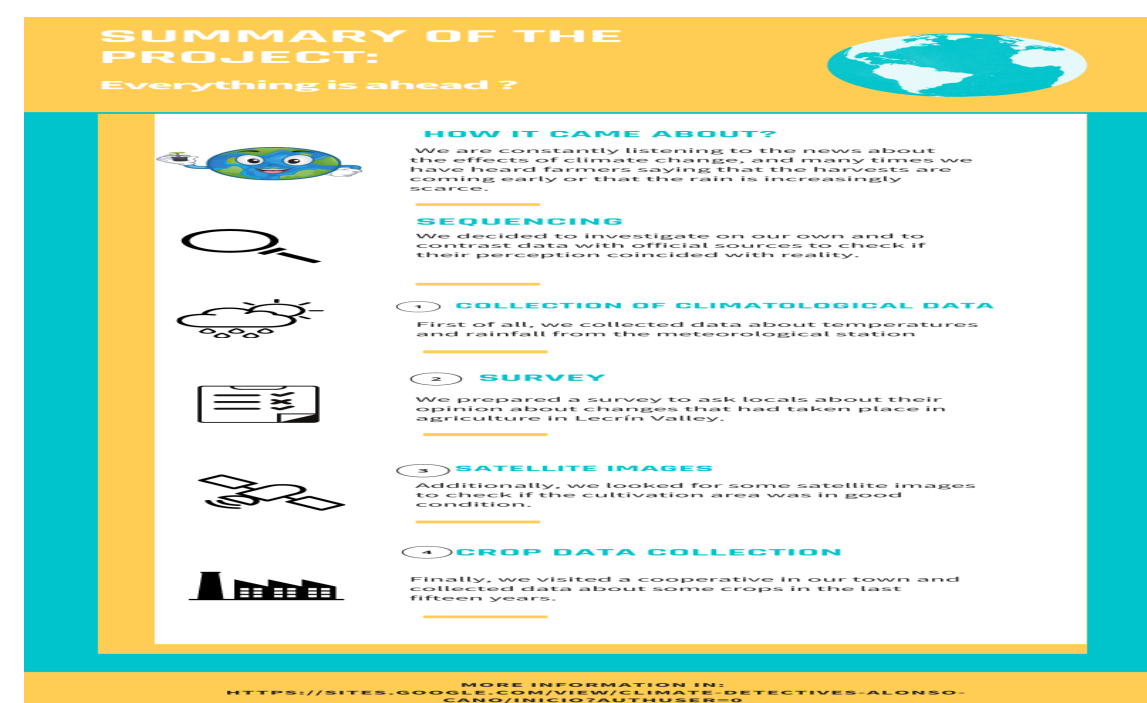


Figure 1:

MAIN RESULTS

There is a microclimate in Lecrín Valley, produced by the protection of the mountains, but According to our research, we cannot affirm that the average temperatures have changed significantly in the last 20 years.

After checking the rainfall record, we can observe that there have been very dry years, such as 2005 and 2017 and a couple of very rainy years such as 2010. We can say that the wettest months are November and March, whereas it hardly rains in July and August.

According to our survey, people who work in agriculture here are very experienced. They mainly grow olive trees, almond trees, citrus and cherry trees. Most farmers grow between one and five different varieties. They have observed some changes in the climate over the last years such as longer, drier and hotter summers and shorter and colder winters. These changes, along with other factors, have made the crops more vulnerable, leading to an earlier collection and reducing production. Additionally, there are other factors that may have influenced these changes, such as urban development, or the lack of fundings for agriculture.

We studied linear correlation between climate factors and the production of the main crops to check the veracity of people's opinions, but we got to the conclusion that we cannot affirm there is a linear relationship between the studied variables and the production in any of the crops. The only aspect that can be seen is the increasing or decreasing relationship between these variables, according to the information provided by experts.

Figure 2:

ACTIONS TO HELP LESSEN TO THE PROBLEM

Finally, we want to say that although we have not found evidence of climate change and its impact on agriculture in Lecrín Valley, this is not an excuse for us to stop taking care of our environment and promoting actions to protect it. For this reason, we want to take some actions:

We are going to start a campaign to promote eco friendly means of transport to get to school such as walking or riding a bicycle.

We have made a proposal to make some students responsible for switching off the lights and closing the windows during the break to save up energy at school.

We want to make people aware of the importance of recycling through social media, and in our own classes and homes.

We want to participate in the care of our scholar orchard.

We would like to join the platform "No a las Torres" to deter the construction of high tension towers along Lecrín Valley.

Our school will develop some projects to make students and the whole community aware of the importance of reducing our carbon footprint.

We hope that with these actions we will be able to help to preserve our natural environment with all the wealth that it has nowadays.

Figure 3: