

Making Science Attractive to Female Students through Open Science Schooling Focused on Climate Change



<https://science4girls.eu/>

Highlights of Spanish/Catalonian Team's Work

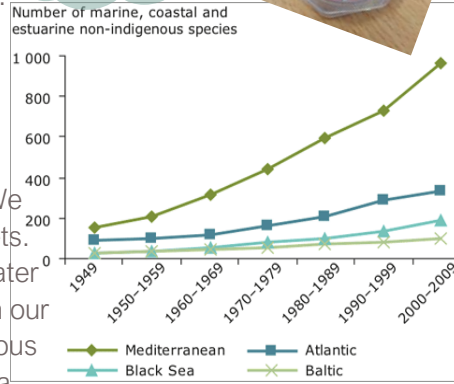


Climate Change Impact in Empordà

Our project works on two sides: *the social side*, where we have delved into "fake news" and our objective has been to raise awareness in society of the importance of critically considering everything we read or hear on the social networks, and *the scientific side*, where we have followed the **scientific method** by doing research and experimenting. The target of our investigations and focus has been the Manol River and other areas of the Empordà. The main objectives are a) to know the pollution of the air, fauna, flora; b) to analyse natural disasters of our zone through statistics; and c) to do practices on the laboratory. The conclusions of how the climate change endangered species of our wetlands were:

- Over the last 50 years, any animal species has disappeared (that we know)
- Illnesses, forest fires or other natural disasters are part of the causes of the extinction of the flora.
- Industrial activity and the expansion of cities have caused the extinction of plants and, many others, are threatened today.
- Due to climate change, there are viruses that will be awakened.

We went to take samples from the **Manol river**. We put on our river boots and took out the fishing nets. We place the nets in fish tanks to preserve and later examine the creatures we caught, and write it on our information sheet. We found out that the indigenous species increased a lot in the Mediterranean Sea from 1949 to 2009, this could be caused by the climate change.



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Next Issue: Science4Girls Multiplier Events!

The Consortium



Students' Perspective

We are a group of 3rd ESO students from the Institut de Vilafant who participate in the Erasmus project Science4Girls. In our project, we investigate the impact of climate change on the environment of the zone we live in: Empordà. As part of our work, we went to the laboratory to do practices of detecting CO₂ in the water, sand and plants of the river. Here are the activities we carried out:

Activity I – Analysis of Manol River Water

Objective: To visualise the presence of CO₂ in the atmosphere.

Activity: To prove that CO₂ is present in the atmosphere and is a reactive compound and is involved in atmospheric dynamics and climate regulation.

Materials: A beaker, two flasks, soda (NaOH), water, phenolphthalein, a container with a pierced lid or stopper, a thin plastic tube, a teaspoon, a pair of pipettes, silver foil, baking soda and vinegar.

Conclusions: The water of the river, which is in our village, is a bit polluted, the result came out with a dark green colour.

Activity II – Analysis of sand and plants

Conclusions: Further analysis of the sand and plant life also showed that the river is in fact polluted; in our zone, the level of CO₂ is less than other countries. This is due to climate change and the pollution of the area, the people who visit the river and leave their rubbish lying around, causing micro-plastic particles to contaminate the river and its surroundings. We needed to do something to change it. Hence, we went cleaning the plastics in the river.

Women in the Science World

"Many years ago, women weren't allowed to work on science and hid in a masculine name or their husbands took the credit, and it was so unfair. Now, many things have changed, we can see a lot of women in different aspects of science, like in laboratory, engineering, cosmos. The following Catalan women are: doctors (Magda Campins), biologists (Gemma Marfany), molecular genetics (Anna Veiga), scientists (Silvia Osuna), astronomers (Carme Jordi): they achieved an important place in our society and that's why they are recognized all over the world. They are an exceptional example to follow." Team Spain