EduFire Toolkit

Aim

To better understand the relationship between humans, wildfires, wildlife and land configuration. Discover that human activity affects landscape configuration and composition, and that landscape configuration and composition have an important role in wildfire and wildlife, so all the actors are part of a dynamic system.

Description

Several factors are involved in the modelling of the landscape, and one of the most relevant in the short/middle term is human activity. The anthropogenic factor has had a very important role in shaping the current landscape (habitats of open spaces, big cities, or dense forests with the consequent impacts on wildlife and wildfire behaviour).

In this challenge, we invite you to explore the changes in our landscape over time and the causes of these changes.

Linked units

- Unit 1: Understanding your environment and connecting it to climate change impacts
- Unit 2: History of wildfires
- Unit 3: Fire ecology I
- Unit 4: Fire ecology II
- Unit 8: Response to wildfires

Type of results

- Exhibition on landscape changes

Material you may need

- Camera
- Recorder
- Computer with internet or access to library

Scope of impact

- Classroom
- Household
- Educational centre
- Community

Activity: Getting to know landscape architects

Tasks

1. You will explore possible solutions to the challenge by evaluating the different drivers of change in the landscape. You can assess both changes in geological time (e.g., formation of mountains and valleys) and changes in the short and medium term (e.g., reforestation, deforestation, terracing, wildfires, and urbanization). (class)

2. In this challenge, we will focus on short-medium term changes. You will look for evidence of these changes over the last 50 years (group):

> a. Evidence with testimonies: you can for e.g., search for old photographs and compare them with current photographs, or interview your grandparents about what the town/city where they lived looked.
>
> b. Statistical evidence: A comprehensive dataset would be required to conduct a statistical study on the occupations that people had in the past and present, as well as land use and land cover changes.

- **Data Collection:**

Occupations: Gather data on historical and present occupations from sources such as, census records, labour market surveys, employment databases, land use, land cover maps or historical archives. Ensure that the data covers a significant period to capture changes over time.

Land use land cover changes: Collect land use and land cover data from sources such as, satellite imagery, remote sensing datasets, aerial photographs, or land use surveys. Ideally, the data should span a substantial period to analyse changes over time.

Professions related to the topic

- Mathematician
- Landscape planner
- Ecologist
- Geographer

- **Data processing**: organize and standardize the data.
- **Define variables:** for occupations and land use and land cover.
- **Statistical Analysis:**

Occupations: It can include calculating frequencies, and percentages, or conducting more advanced statistical tests, such as chi-square tests or regression (optional).

Land use and Land Cover changes: This can involve calculating the area or percentage of each land cover/use category, analyzing trends, and assessing the conversion of land from one use/cover to another. Analysis, to explore relationships and trends.

- **Interpretation and Conclusion:** Interpret the statistical findings and draw conclusions about the changes in occupations and land use/cover over time. Discuss any significant trends, shifts, or relationships identified in the data.

3. All collected information will be analysed visually to create a monographic exhibition that explains how the environment of the students has changed and what have been the main causes of this change. The exhibition can be shown in a public place to be visited by the community, there will be an opening event where there will be an explained guided tour.