

GEOVACUI-2: Citizen Science for knowledge depopulation



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PRESENTATION

This Story Map has been designed following a didactic unit approach to be reproduced by teachers in their classrooms. It addresses the phenomenon of depopulation through the [GEOVACUI project](#).

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It contains the following information:

- **Lesson plan.** Objectives, topics and different didactic strategies.
- **Frameworks.** Students must acquire these skills throughout their training process. For this reason, teachers should consider the following frameworks: on the one hand, the key competencies of the [Council of the European Union](#) (2019), and, on the other hand, the competencies in sustainability in the framework of the Agenda 2030 proposed by UNESCO.

- **Resources for Secondary School students and teachers** made by experts on Geography, Geodata and Cartography in the team of GEOVACUI.
- **Classroom examples** tested by Spanish Secondary Schools with different approaches and several didactic strategies to implement in the Geography classroom.
- **List of documents and documentaries** is provided in order to use in the classroom.

We intend to bring teachers, students and the general public to an understanding of the content that can be easily adapted to the work in the classroom. In addition, the idea is that students can participate in a **Citizen Science** project. This didactic unit is built with the contribution of all researchers and participants in the GEOVACUI project, especially the [teachers who have collaborated](#) in the workshops during the 2021-2022 and 2022-2023 academic years. Together they have collaborated to make GEOVACUI useful to science and society.

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LESSON PLAN

LEARNING OBJECTIVES

1. Understand and acquire **geographic knowledge** related to the phenomena of the depopulation.
2. Understand what **citizen science** is and its utility.
3. Investigate with **scientific data** contrasting with **different geographical sources**.
4. Acquire awareness about the **challenges of the rural environment and its inhabitants**.
5. Respect the **proposals of all participants** in order to acquire **citizenship awareness**.
6. Learn to work **cooperatively** developing **communication skills**.

TOPICS

Depopulation is a demographic and territorial phenomenon, which consists of a decrease in the number of inhabitants of a territory or nucleus in relation to a given period. Its causes and consequences are numerous and are related to different aspects addressed in the secondary education subjects:

- 1- Geography of population
- 2- Geography of economic activities
- 3- Economic imbalances
- 4- Territorial & environmental challenges



FRAMEWORK

Competencies for a lifelong learning

The approach of the curricula by competencies has its origin in the project DeSeCo (Definition and Selection of Competencies: Theoretical and Conceptual Foundations) implemented by OECD in 1999.

Why is this approach important in the 21st century? The aim is to avoid the inequalities in the population, with the need to be learning permanently and acquire knowledge, skills and attitudes that allow students to achieve a better social and economic position and responsible ethics education with its environment.

This allows us underline the need of our students develop **competencies related to science**. For this reason, from this project we would like to get:

- a) **Scientific literacy**, linking Geographical Science with the training process of our Secondary School students, offering them the best knowledge and tools from the experts (GEOVACUI team).
- b) **Critical thinking**, doubting categorical affirmations and obtaining a better knowledge by contrasting information. In fact, this competence/ability is related with the achievement indicator of **“competencies in sustainability”**: **systemic thinking, collaborative decision making and responsibility toward present and future generations**.

Method

The citizen science method is when the public participates voluntarily in the scientific process, addressing real-world problems in ways that may include formulating research questions, conducting scientific experiments, collecting and analyzing data, and interpreting results.

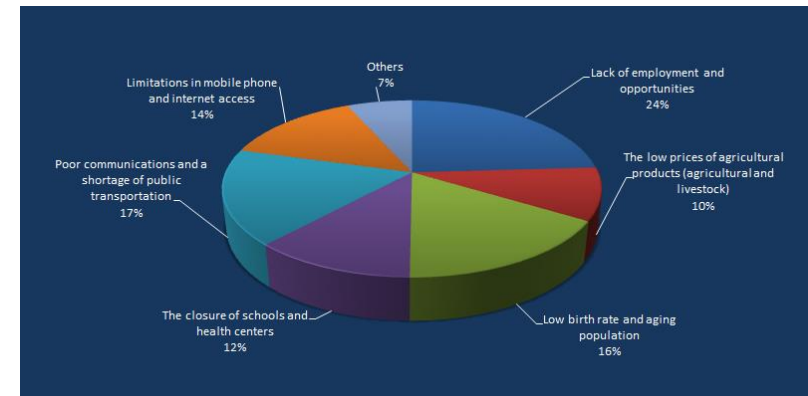
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What is happening in the Spanish rural world?

What do we associate it with?

Mains causes

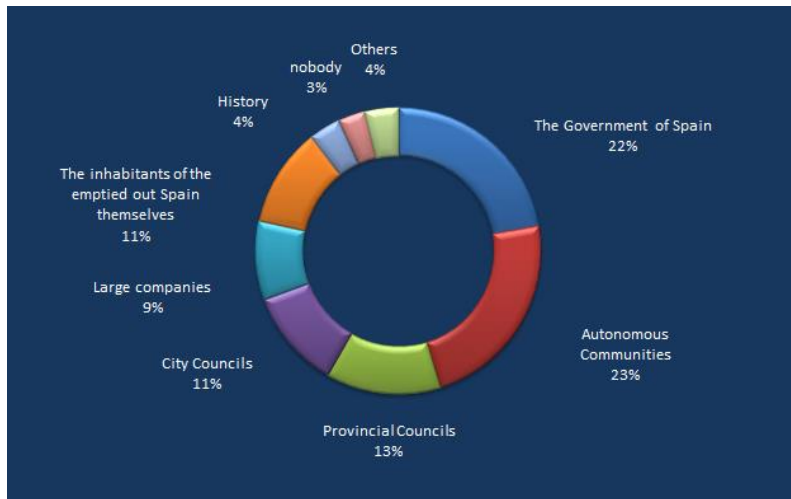
1. Lack of real rural culture.
2. Difficulties in accessing land and housing.
3. Disregard for the work in the field and the productive value it has for society.
4. Poor quality of employment, seasonal, low paid...
5. Low social appreciation of life in the villages and of those who inhabit them.



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Factors responsible for the problem

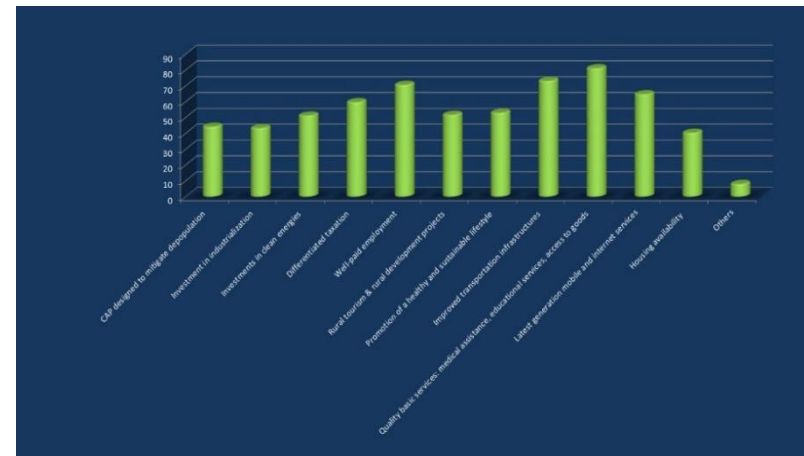
1. Economic model.
2. Values of the welfare society and its way of life.
3. Inadequate public and private policies.
4. How it reflects on the city (happiness, success, security) and the rural environment (failure, delay).
5. We are all responsible for our actions.



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Primary solutions

1. Change of economic and social paradigm.
2. Taxation and policies adjusted to reality and equality among regions.
3. Reducing administrative and environmental obstacles.
4. Improve infrastructures for remote working and co-working.
5. Modernizing the field and its image.



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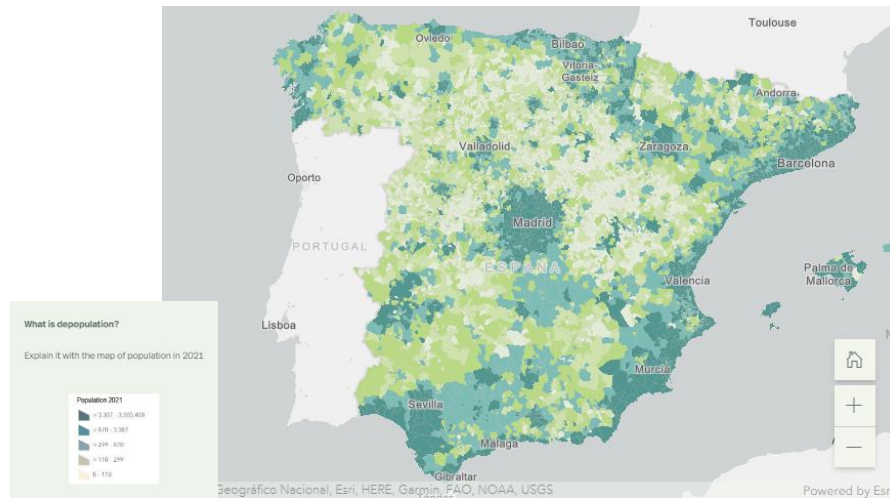
RESOURCES

This activity should consolidate a series of **basic concepts**, such as: depopulation, natural growth, population density, census, concentrated population distribution, population change...

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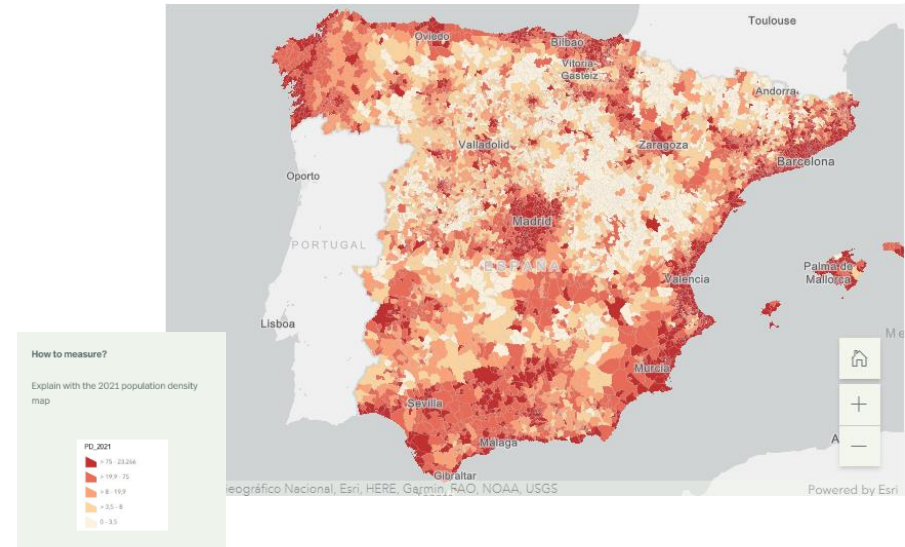
What is depopulation?

Explain it with the map of population in 2021



How to measure?

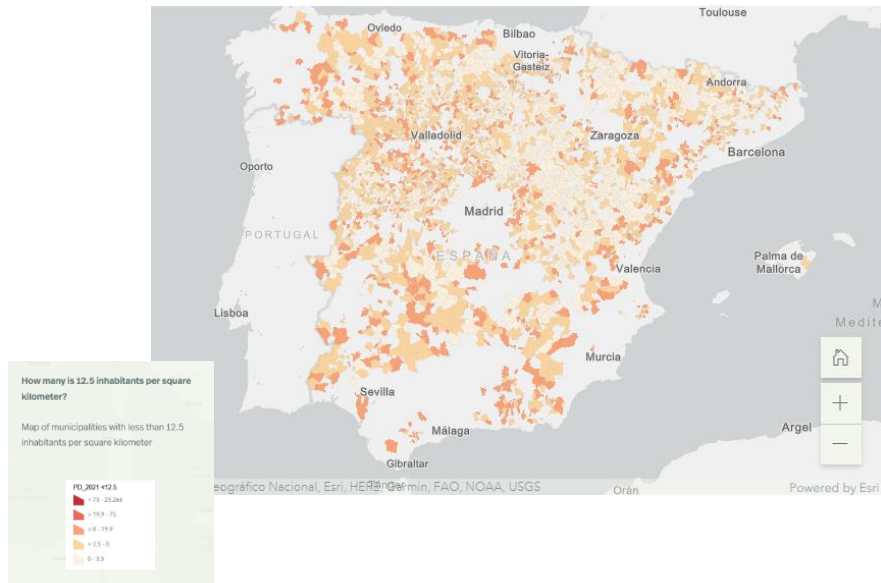
Explain with the 2021 population density map



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How many is 12.5 inhabitants per square kilometer?

Map of municipalities with less than 12.5 inhabitants per square kilometer.



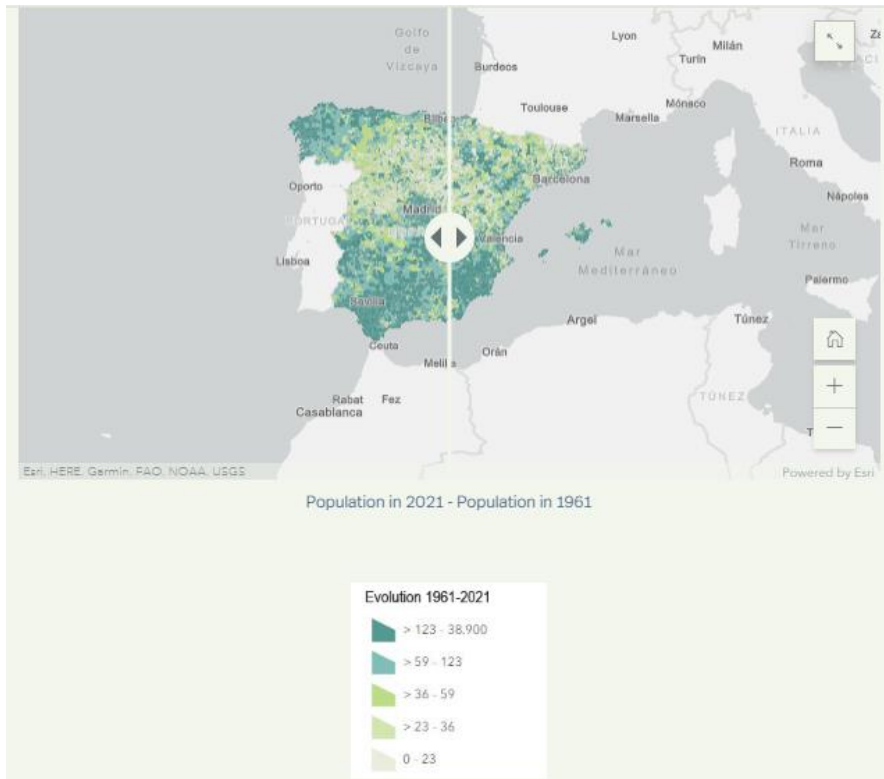
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It is necessary to know the phenomenon and its dimensions in order to intervene.

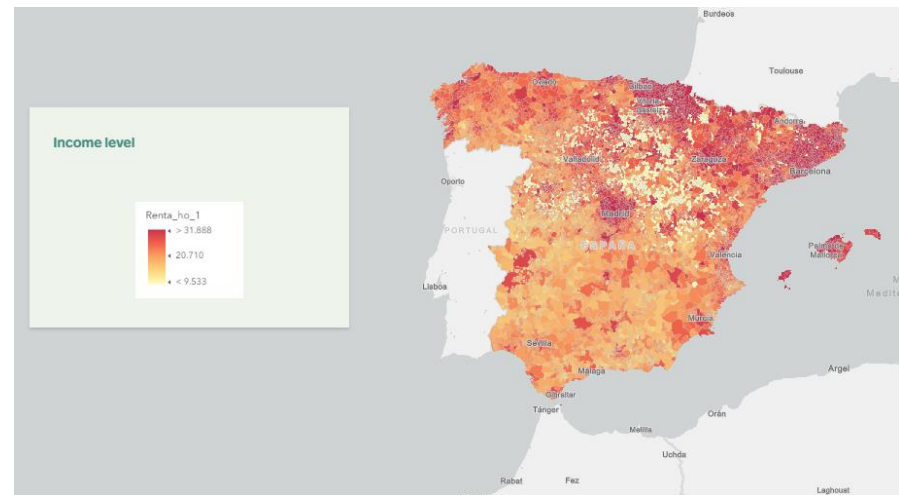


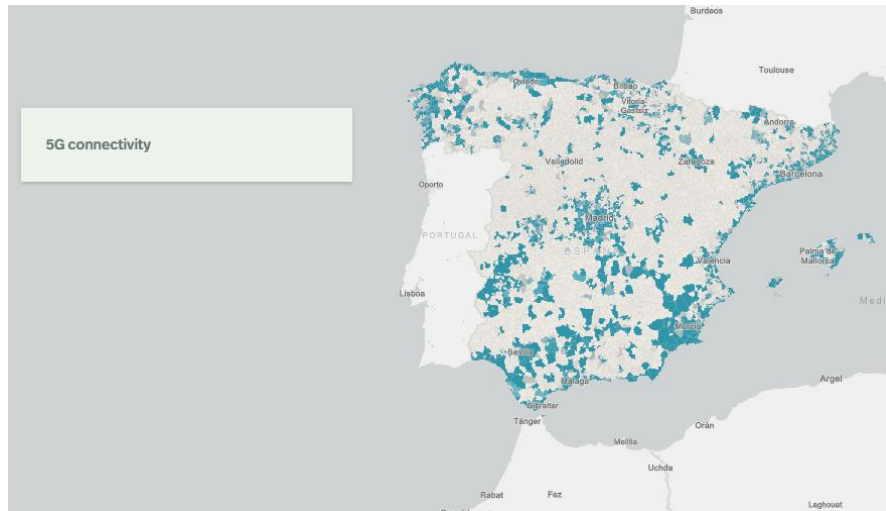
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The European Union considers that there is danger in areas with less than 12.5 inhabitants per square kilometer. To measure population density, choose an area known to the students that measures this size.



Socio-demographic, economic and territorial dimensions...





Classroom examples

Real classroom activities

1. *Interviews: What is depopulation? What is citizen science?*
2. *Where do we come from?*
3. *Population pyramids*
4. *Is the Marina Alta becoming depopulated?*
5. *Depopulated Spain*
6. *Infographics on depopulation*
7. *And if you were a businessman in Ávila*
8. *Case analysis: Guareña*
9. *Alfarnate: four seasons to enjoy*
10. *Unpopulated Spain: Almargin*

Resources of interest

About Citizen Science

- [Bibliography](#)
- [Networks & Webs](#)
- [Dinamic presentation](#)

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About depopulation

- [Bibliography](#)
- [TV reports and documentaries](#)
- [International news](#)

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