



Co-funded by the
Erasmus+ Programme
of the European Union



Grupo de Desarrollo Rural Subbética



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE



*Antonio García Jiménez
Felipe González Barrionuevo
Alicia Serna Barquero*



C1.- TRAINING COURSE



The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

MODULE 2: Management and conservation of Geological Heritage in Europe

MODULE 3: Particularities and Situation of the European Geological Heritage

Oral presentation: Alicia Serna Barquero (Scientific Advisor, Sierras Subbéticas UNESCO Global Geopark)



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Geodiversity: *variety of geological elements and processes, comparable to Biodiversity*

Geological Heritage: *The most important elements and processes, meaningful to be worthy of conservation measures*



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Types of GeoHeritage

Palaeontological

Mining and Archaeo- Industrial

Geomorphological

Hydrogeological

Tectonics

Stratigraphy

Volcanic



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Geoconservation measures and actions aimed at maintaining and/or recovering the natural value of a particular place or natural element, being these place or element of geological nature.

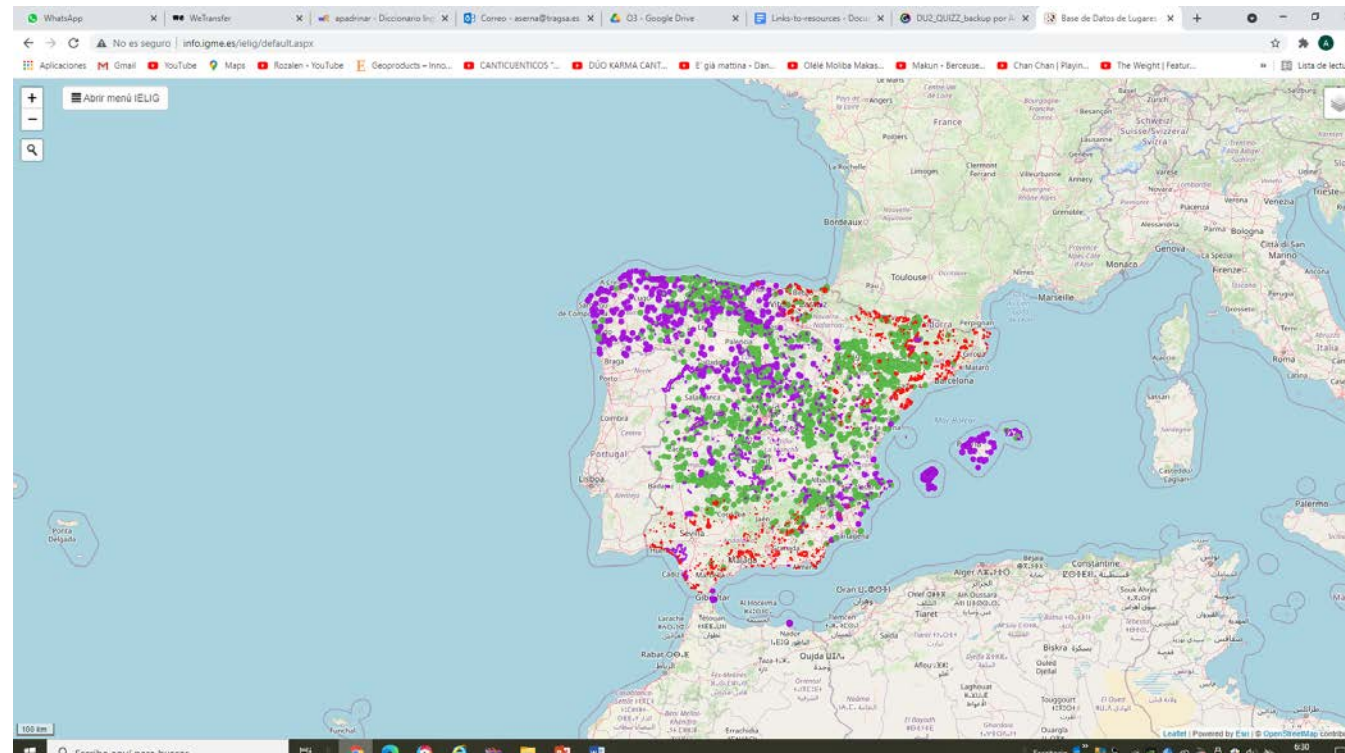


DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Inventories

Starting point for any conservation measure

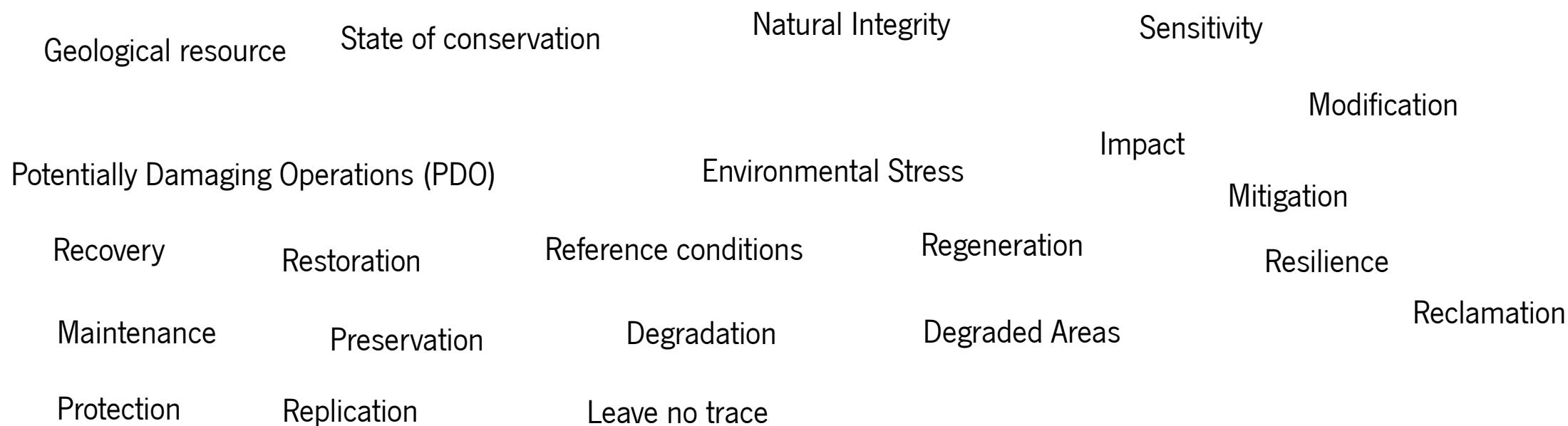




DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Geoconservation

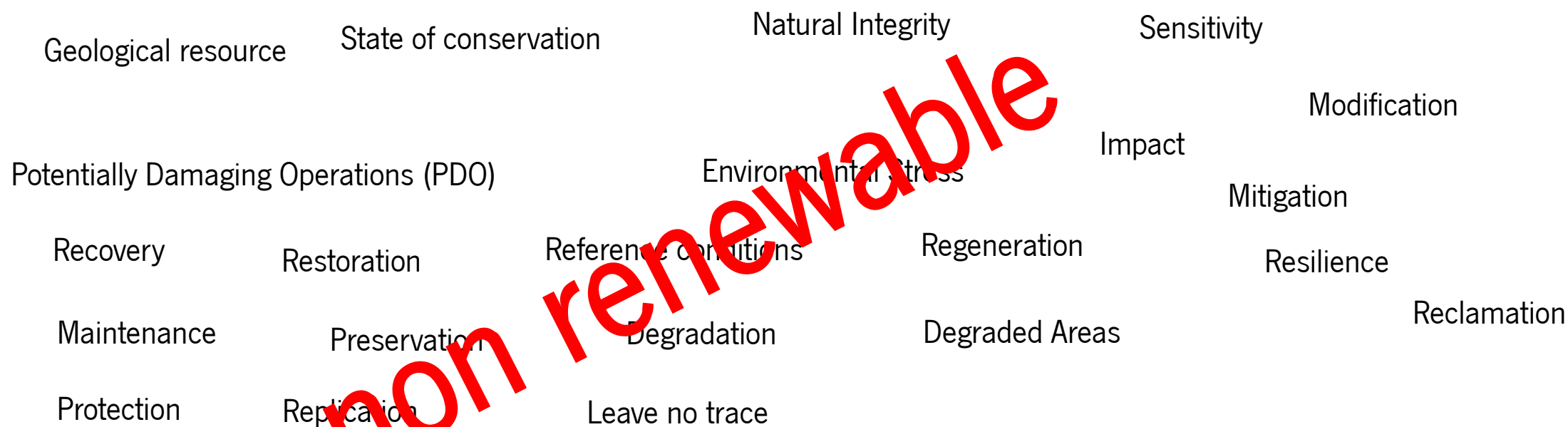


Most of these concepts come from Environmental Sciences, but applied to geological heritage and geodiversity, but with an important difference. Inmense majority of elements are non renewable resources.



MODULE 1: Basic Concepts of Geological Heritage

Geoconservation



Most of these concepts come from Environmental Sciences, but applied to geological heritage and geodiversity, but with an important difference. Inmense majority of elements are



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

INTERACTIVE MATERIAL

WhatsApp x Desconexión | BBVA E... x WeTransfer x Noticias de Murcia | Ú... x Correo - asema@trag... x O3 - Google Drive x Links-to-resources - D... x DU2_QUIZZ_backup p... x geological heritage-ini... x

view.genial.ly/60488b4bc03f800d94850154

Aplicaciones Gmail YouTube Maps Rozalen - YouTube Geoproducts - Inno... CANTICUENTOS "... DUO KARMA CANT... E' già mattina - Dan... Olélé Moliba Makas... Makun - Berceuse... Chan Chan | Playin... The Weight | Featur... Lista de lectura

Co-funded by the
Erasmus+ Programme
of the European Union

Grupo de Desarrollo Rural Subbética

adesper

Subbética
Centro de Andalucía

NOVOHRAD
GEO PARK

Junta de Andalucía
Consejería de Agricultura, Ganadería,
Pesca y Desarrollo Sostenible

UNIVERSITY OF
BUCHAREST
UNIVERSITY OF ENGINEERING

FOR.ES.
FORMAZIONE E SVILUPPO

FILL THE GAPS!

Quiz

DIDACTIC UNIT II

The European Commission's support for the production of this publication/product does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Escritorio 5:27 11/05/2021



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

INTERACTIVE MATERIAL

The screenshot shows a web browser window with multiple tabs open. The active tab displays a quiz interface with a green header. The header includes the title "Fill in the blanks!", a progress indicator "0/2 NUM. TRIES", a score display "100 SCORE", and a timer "04:55 LEFT TIME". The main content area contains a text passage with several blank spaces for answers. To the right of the text is a box titled "These are the words to use" containing a list of words: sensitivity, degradation, preservation, restoration, maintenance, geoconservation, conditions, impairment, protection, and reference. At the bottom of the quiz area is a large orange "Check" button. The browser's address bar shows the URL "view.genial.ly/60488b4bc03f800d94850154". The Windows taskbar at the bottom shows the date and time as 6:14 on 11/05/2021.

Fill in the blanks!

0/2
NUM. TRIES

100
SCORE

04:55
LEFT TIME

Long term agricultural activities have carried out an important _____ of the Geosite Cortijo los Caracoles, where surface strata have suffered displacement. To stop this negative tendency, the Environment Government has established new regulations, like the prohibition of heavy equipment, to guarantee the _____ of this important site. However, a process of _____ is needed to go back to the _____. When restoration activities have been finished, periodic _____ will be necessary for the _____ of this site. The nearby palaeontological site Los Pececicos presents high _____, as fish fossils are preserved in friable rock, which breaks easily. Though this site is fenced, it has recently suffered an _____ by fossil hunters, who have extracted dozens of exemplars. This is the most important loss regarding _____ in the Geopark.

These are the words to use

sensitivity degradation preservation
restoration maintenance geoconservation
conditions impairment protection
reference

Check

educaplay
by ADR Formación



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

INTERACTIVE MATERIAL

CONGRATULATIONS! YOU'VE PASSED THIS ACTIVITY
Fill in the blanks!

Long term agricultural activities have carried out an important degradation of the Geosite Cortijo los Caracoles, where surface strata have suffered displacement. To stop this negative tendency, the Environment Government has established new regulations, like the prohibition of heavy equipment, to guarantee the protection of this important site. However, a process of restoration is needed to go back to the reference conditions. When restoration activities have been finished, periodic maintenance will be necessary for the preservation of this site.

The nearby palaeontological site Los Pececicos presents high sensitivity, as fish fossils are preserved in friable rock, which breaks easily. Though this site is fenced, it has recently suffered an impairment by fossil hunters, who have extracted dozens of exemplars. This is the most important loss regarding geoconservation in the Geopark.

Play again

Login Register

100 02:45 1/2



MODULE 2: Management and Conservation of Geological Heritage in Europe

In Europe, there are as many organizational forms and policies of Geoheritage management as countries

Regulations on geoconservation usually subordinated to bioconservation.

Management sectors

the governmental sector

the non-governmental sector

Management Areas

Already existing Natural Protection Figures (measures focused on Biodiversity)

Non previously protected (New measures can be designed)



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 2: Management and Conservation of Geological Heritage in Europe

Ideal situation

Generalized deficit of knowledge and awareness regarding Geoheritage

Lack of protection of isolated geosites or sites located outside previously protected areas

Necessity of revision and unification of geosite inventories, because many European countries have obsolete lists or have national and regional geosites inventories excessively overlapped. There are even countries with geosites located in already protected areas that still requires protection assessment.

Need for regulation and personnel devoted to the systematic physical management of the Geoheritage.

To increase the communication with other geological scientific and educational communities.

To extend the stimulus that Geoparks represent in terms of protection, education, awareness and sustainable development to other territories, in order to establish a solid connection between protected geosites and geotourism.

To extend more widely the use of the geoheritage in education, outside or inside a Geopark, because geoheritage has a great potential for the development of case studies, field trips, interpretive .



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 2: Management and Conservation of Geological Heritage in Europe

Critical areas of action for the promotion of geoconservation and its integration within the environmental policies:

1. Integration of Geoconservation into Civil Society.
2. Improvement of the scientific basis for Geoheritage conservation.
3. Integration of Geoheritage conservation Nature conservation, ecosystem approach and sustainable development.
4. Integration of Geoheritage conservation in protected areas, planning and management.



MODULE 2: Management and Conservation of Geological Heritage in Europe

1. Integration of Geoconservation into Civil Society

To progress from geoconservation being an activity interesting only for Geoscientists and people with professional training and knowledge to one of broader interest, the following actions are required:

- a) The use of intelligible language when interpreting geoheritage to the widest audience.
- b) The continuous adaptation of Geoheritage to the values and demands of a continuously changing society.
- c) Increase the level of interaction with other conservation experts and with civil society, promoting participation in debates on conservation and environmental management or facilitating citizen participation in geo-environmental volunteers.
- d) Ensure that the Geosciences are an integral part of the educational curriculum in primary and secondary school.
- e) Promote Geoheritage integrating geotourism into the tourism strategies and policies of the different territories.



Co-funded by the
Erasmus+ Programme
of the European Union

DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE



MODULE 3: Particularities and situation of European Geological Heritage

IUGS

ProGEO

European Geoparks Network

European Geosites: Global Geosites



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

The geotourism Guide Interpreter



MODULE

MODULE

MODULE

Heritage in Europe

Geological Heritage



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Awareness



MODULE

MODULE

MODULE

Heritage in Europe

Geological Heritage

A guide sensitive to heritage



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Awareness



MODUL

MODUL

MODUL

ritage in Europe

logical Heritage

Importance of ***emotion***



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Infuse sensitivity

MODULE 1: Basic Co

MODULE 2: Manage

MODULE 3: Particul



al Heritage in Europe

Geological Heritage

Guide sensitive to heritage



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Infuse awareness



***And how to get all these?
Apart from the theoretical training?***



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Infusing awareness



Connect Geoheritage with daily life



Co-funded by the
Erasmus+ Programme
of the European Union

DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE



Infusing awareness

Why is it important to preserve Geodiversity and Geological Heritage?

Connect Geological Heritage with daily life

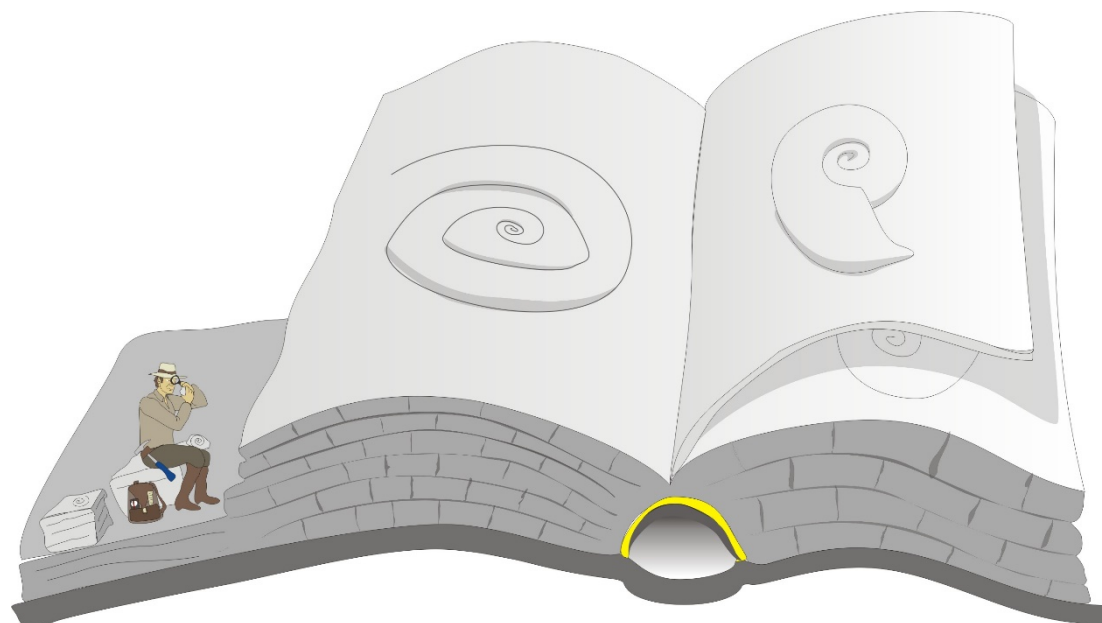


DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Why is it important to preserve Geodiversity and Geological Heritage?

They represent scientific and didactic resources, which permit not only to interpret the past of the Earth and life evolution, but also to better understand current processes and to elaborate management strategies for future foreseeable situations.





DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Why is it important to preserve Geodiversity and Geological Heritage?

They represent habitats, ecosystems and landscapes support, as well as of the relationships and dynamic processes that happen in them.





Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Why is it important to preserve Geodiversity and Geological Heritage?

They are socioeconomic assets for sustainable development in rural areas.





Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

MODULE 1: Basic Concepts of Geological Heritage

Why is it important to preserve Geodiversity and Geological Heritage?

They are fundamental part, since their origin, of human culture and their activities in the territory.






Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Infusing awareness



¡APADRINAR ES GRATIS!


APADRINA

Inicio

Reglamento

Inventario Español de Lugares de Interés Geológico

RELLENAR ENCUESTA
O
REPORTAR INCIDENCIA



INICIATIVA PARA LA CONSERVACIÓN Y SEGUIMIENTO
DEL PATRIMONIO GEOLÓGICO

APADRINA
UNA ROCA

Be the Godparent of a rock

REGLAMENTO

- Cualquier persona física mayor de edad, o entidad jurídica constituida legalmente (institución, empresa, asociación...), puede apadrinar un Lugar de Interés Geológico (LIG).

Involvement in Geoconservation



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Infusing awareness



Volunteering



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

Infusing awareness



<https://www.youtube.com/watch?v=yFw2PrWRyoo>

Use of shocking images



Co-funded by the
Erasmus+ Programme
of the European Union



DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE

IMPORTANCE OF CONTINUOUS STUDY

Geoconservation is a very young science, and much work is still to do





Co-funded by the
Erasmus+ Programme
of the European Union

DIDACTIC UNIT II EUROPEAN GEOLOGICAL HERITAGE



Thank you for your attention!