

# GOAL: AN INTERNATIONAL PROJECT TO DEVELOP GEOETHICS AND ITS EDUCATIONAL POTENTIAL

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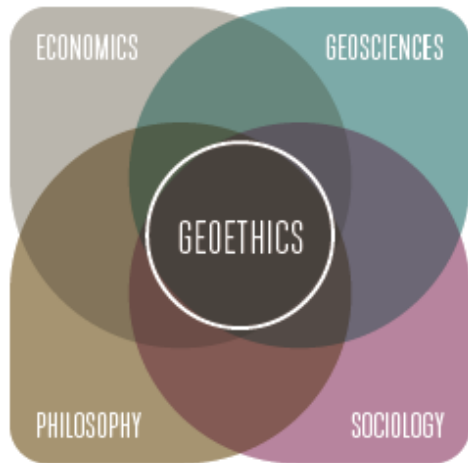
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## The project GOAL



- ❑ "GOAL - Geoethics Outcomes and Awareness Learning" (<https://goal-erasmus.eu/>) is an Erasmus+ project aimed to develop tools for teaching geoethics through an innovative and creative approach.
- ❑ Members of different partner countries (Portugal, Austria, Italy, Israel, Spain, Lithuania) are working together bringing their expertise in overlapping disciplinary areas and intellectual synergies.
- ❑ In particular, the project integrates researchers and practitioners with skills in geoscience education, theoretical aspects of geoethics, geological heritage, georisks, georesurces, environmental sciences, and information and communication technologies in education.

## AIMS

### The project "GOAL" aims to develop:

- **a geoethics syllabus**
- **educational resources to be used in Higher Education**
- **video-pills**
- **e-handbook**

in order to:

- promote awareness-raising on ethical and social implications of geoscience knowledge, education, research, practice and communication;
- enhance the quality and relevance of students' knowledge, skills and competencies;
- develop operational capacities for strengthening the conceptual substratum of geoethics.



## TO WHOM IT IS ADDRESSED



Geoethics Outcomes  
and  
Awareness Learning

**The target group of the  
GOAL project is formed  
mainly by:**

- higher education students;
- professors and researchers;
- practitioners in the field (such as “geoheritage site” guides and secondary teachers).

## The Italian team 1/2

### The Italian team has:

- framed geoethics from a theoretical point of view;
- introduced definitions, values and contents;
- clarify some concepts of utmost importance in geoethics, like that of responsibility, intellectual freedom, research integrity, prevention, sustainability, resilience, etc.
- addressed some specific issues such as the difference between ethical issues and ethical dilemmas, as well as the necessity to reach a reasonable alignment of values when dealing with geological activities that may have an impact on environment and population;
- connected geoethics to several geosciences issues, such as georisks and georesources management, through the use of videos.





## The Italian team 2/2

### Activities and products of the Italian team:

- organized a workshop in Rome (Italy) on “Theoretical aspects of geoethics and geoethics in georisks” (in 2018);
- contributed to the the e-handbook with 2 chapters and cooperated to the preparation of others 2 chapters;
- contributed to the geoethics syllabus with 2 modules;
- contributed to the glossary, writing texts for the words “geoethics”, “geosciences”, “disaster”, “Earth system”, “Responsibility”, “Risk”;
- created and recorded 4 video-pills on different aspects of geoethics (video-editing by the Lithuanian team);
- prepared 2 educational resources related to theoretical aspects of geoethics and geoethics in geological risks.



# GOAL: an international project to develop geoethics and its educational potential

## Video-Pills 1/2



### Introduction to geoethics: definition, concepts, and application

<https://youtu.be/NX7Gii5adKk>



### Geoethical issues and geoethical dilemmas

<https://youtu.be/gZ8Y56-yrDM>

## Video-Pills 2/2



### **Geoethics and responsible use of geo-resources**

<https://youtu.be/23nwwu79sSA>



### **Geoethics and geological risks**

<https://youtu.be/rZSjzOxiGUk>



## Educational Resources

### **The Educational Resources by the Italian team:**

a focus on 2 specific cases (description, objectives, questions are provided for each case)

#### **Introduction to geoethics: definition, concepts, and application**

[https://goal-erasmus.eu/wp-content/uploads/2020/02/Introduction\\_Geoethics.pdf](https://goal-erasmus.eu/wp-content/uploads/2020/02/Introduction_Geoethics.pdf)

Every course on geoethics needs for a basic introduction to the main concepts. This educational resource is based on a video that provides a short overview on the theoretical framework of geoethics: its definition, the principle of responsibility, the four geoethical domains of the geoscientist's experience (individual, inter-personal, societal, environmental domains) and the main characteristics of geoethics (actor-centric on individual geoscientist, geoscience knowledge based, virtue-ethics, context-dependent in space and time).

#### **Geoethics and Geological Risks**

[https://goal-erasmus.eu/wp-content/uploads/2020/02/Geoethics\\_Georisks.pdf](https://goal-erasmus.eu/wp-content/uploads/2020/02/Geoethics_Georisks.pdf)

This educational resource is based on a video that provides an overview on the geoethical aspects and implications in georisk management, by introducing several key concepts: prevention, probably and uncertainty, risk scenario and its actors, geoscientists as social actors and their role, defence system, disaster cycle, operational protocols in emergency phase, science-society interface, citizen science.

# Geoethics: how and why should geosciences serve society?

Session EOS5.1

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<https://goal-erasmus.eu/>