# Disaster risk reduction for a resilient world

## An online transdisciplinary course to enhance global awareness in training and education

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Credit: Martin Mergili (distributed via imaggeo.egu.eu)

# Motivation

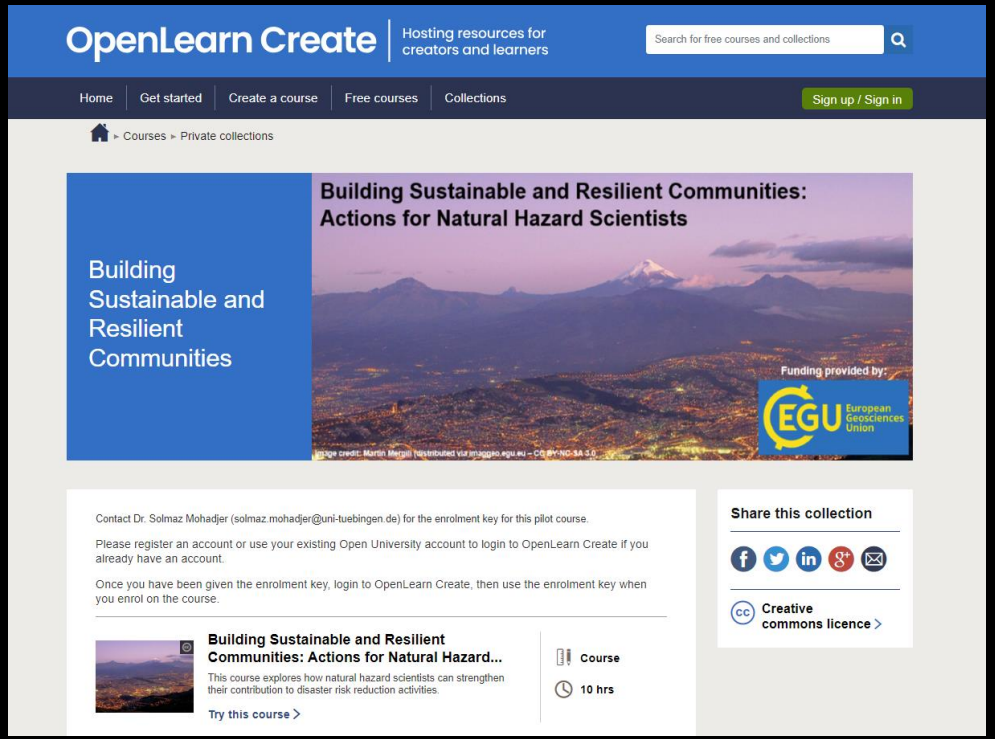
How can researchers contribute to building resilient societies?

- Seven recommendations made by Gill et al. (2021) - *Nat. Hazards Earth Syst. Sci.*

1. Characterize multi-hazard environment
2. Prioritize long-term partnership
3. Listen to your stakeholders
4. Understand the cultural setting
5. Ensure access to hazard information
6. Promote people-centered DRR
7. Connect DRR with Sustainable Development

https://tinyurl.com/NHESS2021

# Motivation




- Free, open-access & self-led
- 7 learning modules (10 hrs study)
- Diverse & inclusive examples
- Active-learning strategies

https://tinyurl.com/DRRLesson

# Roadmap

*Aim:* To adapt the online training course, originally developed for natural hazard researchers (and students) and make it accessible to students from all disciplines.

1. Online course
2. Course evaluation
3. Lessons learned

# Online Course

7 Learning Modules for Flipped Learning

Disaster risk reduction for a resilient world

- Offered by Global Awareness Education (a part of the Transdisciplinary Course Program)
- 3 credit online course
- Piloted in Winter semester 2023/24
- 13 weeks, 1 x 90 mins session/week

Participants: 9 undergraduate students from different disciplines

# Course Structure

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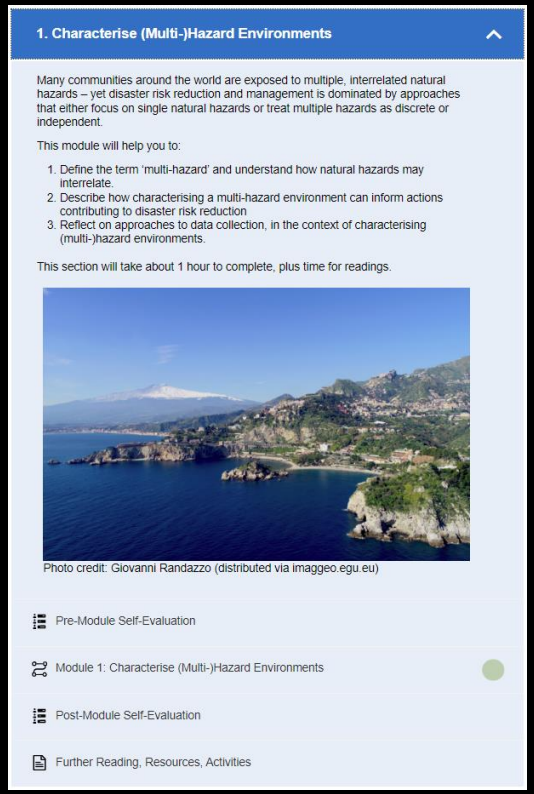
| Modules used for flipped learning: | Total: 13 weeks | Additional topics |
|---|---|---|
| 1. Characterize multi-hazard environments | 3 lectures* | Compound & Cascading risk |
| 2. Prioritize effective partnership | 2 lectures* | |
| 3. Understand your stakeholders | 2 lectures* | Theory of change |
| 4. Understand the cultural setting | 3 lectures | Positionality<br>Indigenous knowledge |
| 5. Ensure access to hazard information | 1 lecture | |
| 6. Champion people-centered DRR | 1 lecture | |
| 7. Connect DRR with Sustainable Development | 1 lecture | |

# Module Example

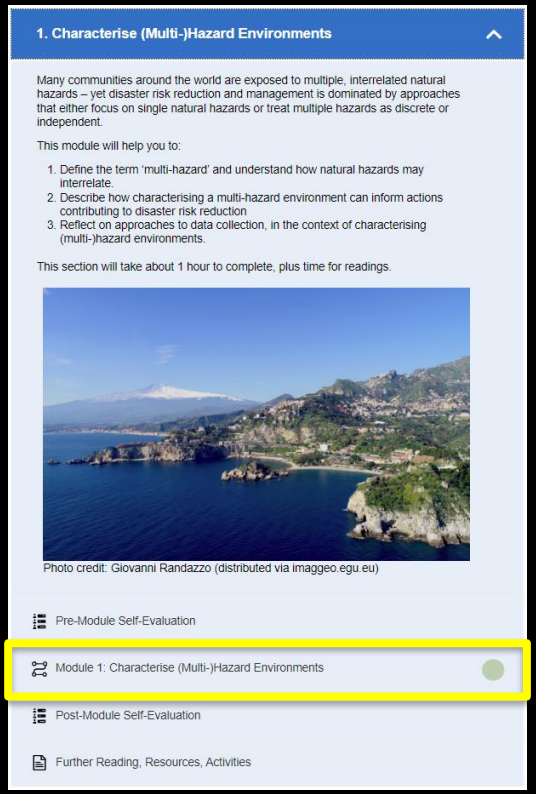



Characterise Multi-Hazard Environments

Lesson Description
Learning Objectives

Pre-Module Self-Evaluation
Module 1: Characterize Multi-Hazard Environments
Post-Module Self-Evaluation
Further Reading, Resources, Activities

# Module Example

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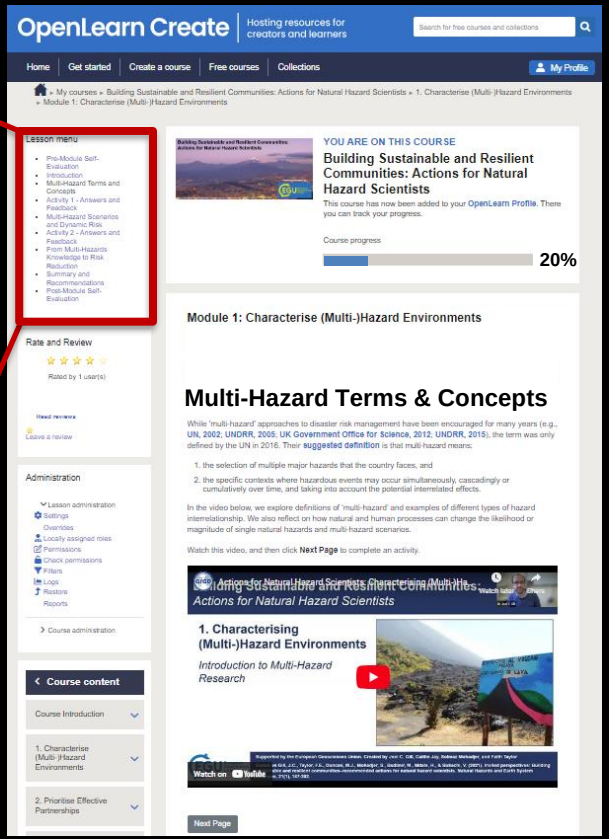
# Module Example

Lesson menu

- Pre-Module Self-Evaluation
- Introduction
- Multi-Hazard Terms and Concepts
- Activity 1 - Answers and Feedback
- Multi-Hazard Scenarios and Dynamic Risk
- Activity 2 - Answers and Feedback
- From Multi-Hazards Knowledge to Risk Reduction
- Summary and Recommendations
- Post-Module Self-Evaluation




Course Progress & Lesson Menu

A short video lecture
Links to UN documents

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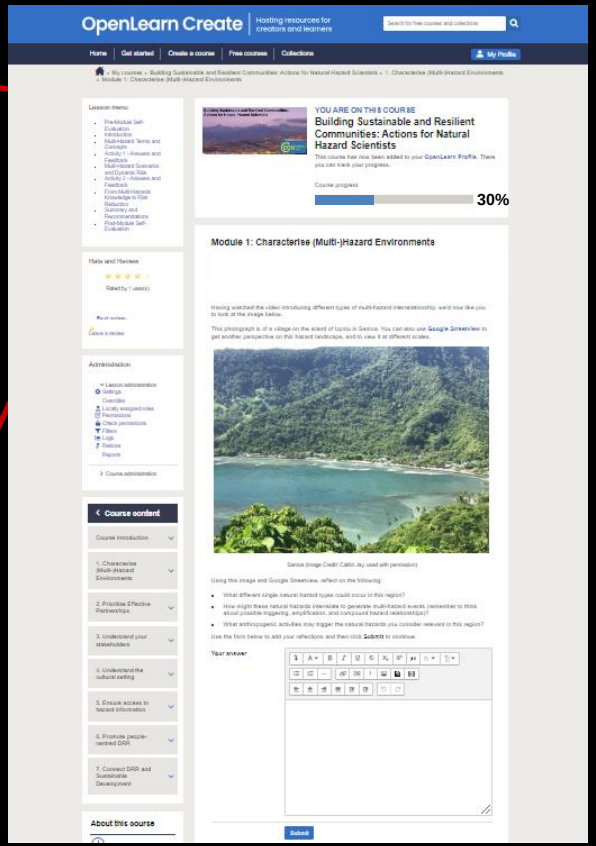


Course Progress & Lesson Menu

Activity 1: Use the image to answer a few questions

Response Submission Form

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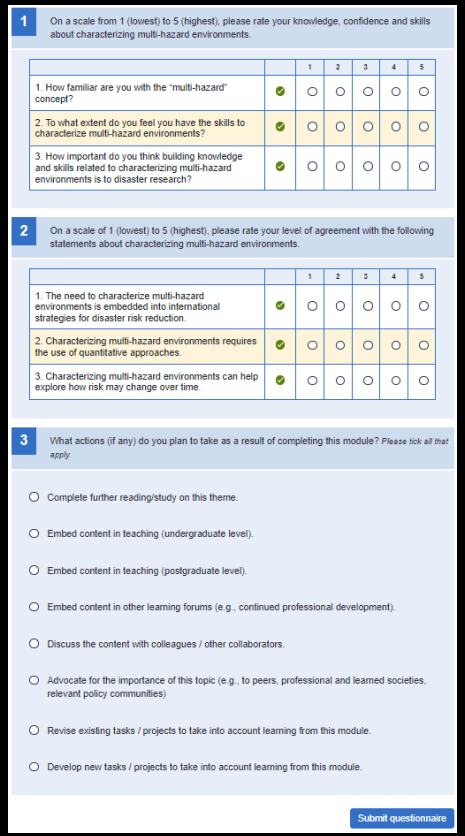
# Pre- & Post-Course Self-Evaluation



**1** On a scale from 1 (lowest) to 5 (highest), please rate your knowledge, confidence and skills about characterizing multi-hazard environments.

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1. How familiar are you with the "multi-hazard" concept? | ✔ | ○ | ○ | ○ | ○ | ○ |
| 2. To what extent do you feel you have the skills to characterize multi-hazard environments? | ✔ | ○ | ○ | ○ | ○ | ○ |
| 3. How important do you think building knowledge and skills related to characterizing multi-hazard environments is to disaster research? | ✔ | ○ | ○ | ○ | ○ | ○ |

**2** On a scale of 1 (lowest) to 5 (highest), please rate your level of agreement with the following statements about characterizing multi-hazard environments.

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1. The need to characterize multi-hazard environments is embedded into international strategies for disaster risk reduction. | ✔ | ○ | ○ | ○ | ○ | ○ |
| 2. Characterizing multi-hazard environments requires the use of quantitative approaches. | ✔ | ○ | ○ | ○ | ○ | ○ |
| 3. Characterizing multi-hazard environments can help explore how risk may change over time. | ✔ | ○ | ○ | ○ | ○ | ○ |

**3** What actions (if any) do you plan to take as a result of completing this module? *Please tick all that apply.*

- ○ Complete further reading/study on this theme.
- ○ Embed content in teaching (undergraduate level).
- ○ Embed content in teaching (postgraduate level).
- ○ Embed content in other learning forums (e.g., continued professional development).
- ○ Discuss the content with colleagues / other collaborators.
- ○ Advocate for the importance of this topic (e.g., to peers, professional and learned societies, relevant policy communities)
- ○ Revise existing tasks / projects to take into account learning from this module.
- ○ Develop new tasks / projects to take into account learning from this module.

Submit questionnaire

Rate your knowledge, confidence and skills

Indicate your level of agreement with these statements

What actions do you plan to take because of completing this module (Post-module only)

# Self-Evaluation – Results

- Increase in knowledge, confidence, and skills across all modules
  - Highest: Connecting DRR with Sustainable Development, Promoting people-centered DRR
  - Lowest: Characterizing multi-hazard environments

- Important topics: Connecting DRR with Sustainable Development, Promoting people-centered DRR

- Actions to take because of completing this course
  - Complete further reading/studying on this theme
  - Discuss the content with colleagues /collaborators

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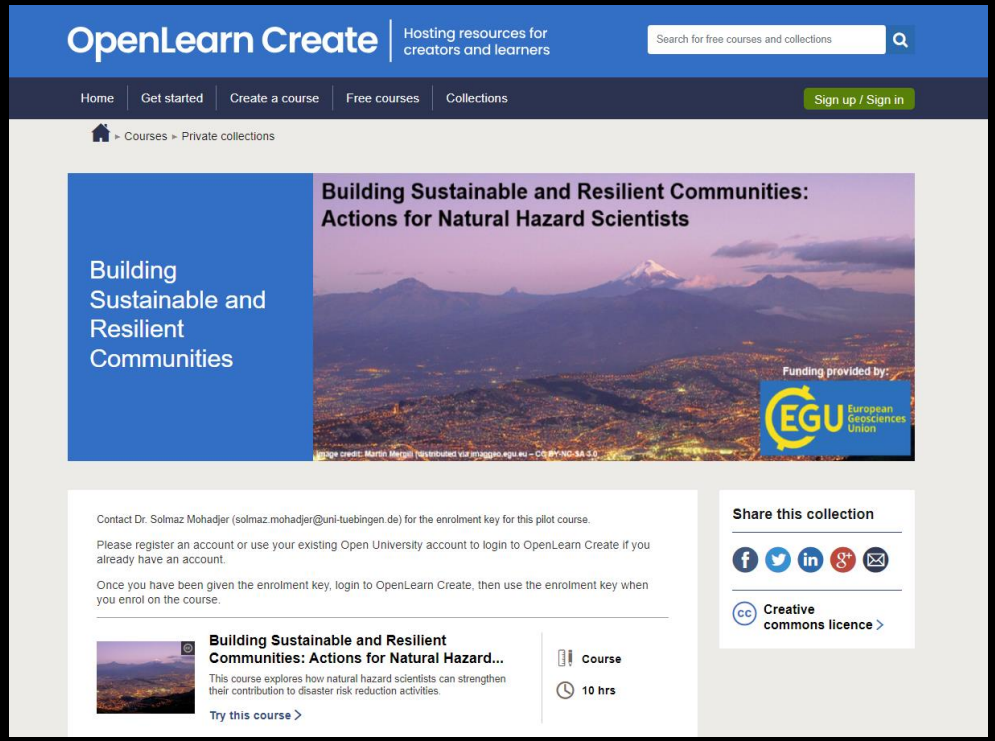
# Lessons Learned

- Topics related to disaster risk appeal to everyone
- Many DRR tools have applications outside of geosciences (e.g., theory of change, stakeholder mapping, partnership spectrum)

## Challenges

- Technical difficulties with accessing the online course
- Students' unfamiliarity with UN documents and DRR frameworks
- Difficulty in relating some of the concepts to their studies, personal and professional experiences

# What you can do




Access course:
https://tinyurl.com/DRRLesson

Share feedback:
https://tinyurl.com/DRRTraining

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