



# ENVS2237

## Natural Hazards, Disasters and their Management

Session 2, Special circumstance 2020

*Department of Earth and Environmental Sciences*

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#### Disclaimer

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#### Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

## General Information

Unit convenor and teaching staff

Convenor, Lecturer, Tutor

Damian Gore

[damian.gore@mq.edu.au](mailto:damian.gore@mq.edu.au)

Contact via Email, Zoom, Phone

11WW 425

By email appointment

Credit points

10

Prerequisites

60cp at 1000 level or above

Corequisites

Co-badged status

ENVS6237

Unit description

The importance of natural hazards and their impacts is growing as population increases and the world is increasingly overshadowed by a changing climate. Natural hazards include those from the solid earth, such as earthquakes and volcanoes; weather-related impacts from floods, tropical cyclones, drought and bushfires; biohazards; and rarer 'megahazards' such as asteroid impacts. The impacts from natural hazards can cause humanitarian disasters and cost billions of dollars. But what are the most important hazards, and where do the disasters occur? How can we manage and reduce disaster impacts? This unit approaches natural hazards via an understanding of how they occur, what they do and how we can mitigate their impacts. This approach allows future societies to be more resilient to the impacts of natural hazards.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** explain concepts of hazard, vulnerability and risk.

**ULO2:** assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.

**ULO3:** describe the physical, economic and social consequences of natural hazards.

**ULO4:** explain critical pathways between natural hazards and their impacts.

**ULO5:** demonstrate written communication skills.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Final examination</u>	40%	No	Date TBA
<u>Natural hazards and disasters</u>	20%	No	30/08/20
<u>Practical quizzes</u>	40%	No	Weeks 3, 5, 9, 11, 13

### Final examination

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **Date TBA**

Weighting: **40%**

Final examination at a time set by the University timetable

On successful completion you will be able to:

- explain concepts of hazard, vulnerability and risk.
- assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.
- describe the physical, economic and social consequences of natural hazards.
- explain critical pathways between natural hazards and their impacts.
- demonstrate written communication skills.

### Natural hazards and disasters

Assessment Type <sup>1</sup>: Essay

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **30/08/20**

Weighting: **20%**

A written piece linking topical natural hazards with disasters. A range of sub-topics will be offered based on recent world events.

On successful completion you will be able to:

- explain concepts of hazard, vulnerability and risk.
- assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.
- describe the physical, economic and social consequences of natural hazards.
- explain critical pathways between natural hazards and their impacts.
- demonstrate written communication skills.

## Practical quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **Weeks 3, 5, 9, 11, 13**

Weighting: **40%**

Quizzes based on the outcomes from the practicals.

On successful completion you will be able to:

- explain concepts of hazard, vulnerability and risk.
- assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.
- describe the physical, economic and social consequences of natural hazards.
- explain critical pathways between natural hazards and their impacts.

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

### LECTURES

Two one hour lectures will be held on Mondays (1500-1600 h) and Thursdays (1200-1300 h) each week from Week 1. **All lectures will be online.** Lectures provide the framework with which to focus your study of the subject and are essential for you to engage with. You should supplement them by reading, especially from the textbook, but also from current journals, which contain the most up-to-date information. All lecture material is assessable in the quizzes or final examination. The iLearn site contains suggested readings, but please don't limit yourself to those. Lectures will be available by the start of the lecture period, through iLearn <https://ilearn.mq.edu.au/login/MQ>.

### PRACTICALS

One two hour practical will be held each week, in Weeks 2-10 and Week 13. **All practicals will be online.** Practicals will be held at times stipulated by the timetable, and I will be available online for consultation while you work through your practicals. I'll supply more information on those later. Each student **should complete** all practical sessions. Practicals contain material to supplement the lectures, or comprise practical exercises to give you skills to help with your understanding and the workplace. All practical material is assessable in the quizzes or final examination. Practicals provide greater depth to related lecture materials and will assist learning by encouraging your active participation. Important material for the practical classes is included on iLearn.

### ASSESSMENTS

The assessments tasks with percentage weightings are as described above; five assessable practicals valued at 8% each (total 40%), a 20% assignment, and a final examination valued at 40%. Further details will be on iLearn.

## Unit Schedule

Wk	Lecture 1	Lecture 2	Practical	Assessment
1	Introduction	Hazard & Risk	No prac class	
2	Earthquakes	Volcanoes	Hazard & Risk	
3	Mass movements	Convective storms	Earthquakes	Quiz 1
4	Tornados	Tropical cyclones	Volcanoes	
5	Hail	Lightning	Tropical cyclones	Quiz 2
6	Floods	Tsunami	Floods	
7	Coastal & oceanic	ENSO	Tsunami	Written assignment
8	Drought & extreme heat	Bushfires	ENSO & drought	
9	No lecture (Labour Day)	Biohazards & pandemics	Bushfires	Quiz 3

10	Technological hazards	Global change & loss	Pandemics	
11	Risk assessment	Vulnerability & disasters	No prac class	Quiz 4
12	Emergency management	Megahazards	No prac class	
13	Revision	No lecture	Revision	Quiz 5

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.