



BIOL8760

Climate Change Biology: Impacts and Adaptation

Session 2, In person-scheduled-weekday, North Ryde 2022

School of Natural Sciences

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General Information

Unit convenor and teaching staff

Jessica Boomer

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Credit points

10

Prerequisites

Admission to MConsBiol or GradDipConsBiol or GradCertConsBiol or MEnv or MEnvPlan or GradDipEnv or MMarScMgt or MSusDev or GradDipSusDev or MSc or MPlan or MSocEntre or GradCertSusDev or GradDipSIA or MScInnovationBioConsMgmt or BBioConsMConsBiol

Corequisites

Co-badged status

Unit description

This unit explores the impacts of climate change on the biosphere, and adaptation options. Topics include biodiversity and conservation, invasive species and their management, impacts on agriculture and urban ecosystems, and the consequences for human health and well-being in both developed and developing countries. Students will explore what is projected to happen if the international target of restricting global temperature rise to no more than 2 degree Celcius is not met, and why even this target will have critical impacts. Students will meet guest scientists and government and industry experts who are at the forefront of solving the immense challenge that climate change brings to the biosphere.

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:** Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- ULO2:** Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- ULO3:** Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change

ULO4: Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies

ULO5: Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.

ULO6: Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

General Assessment Information

Late Assessment Submission Penalty

From 1 July 2022, Students enrolled in Session based units with written assessments will have the following late penalty applied. Please see <https://students.mq.edu.au/study/assessment-exams/assessments> for more information.

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11:55 pm. A 1-hour grace period is provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for [Special Consideration](#).

Assessments where Late Submissions will be accepted

In this unit, late submissions will accepted as follows:

- Impacts and Adaptation Report - YES, Standard Late Penalty applies
- Adaptation Plan - YES, Standard Late Penalty applies
- Presentation - NO, unless Special Consideration is granted
- Quizzes - NO, unless Special Consideration is granted

Assessment Tasks

Name	Weighting	Hurdle	Due
Impacts and adaptation	24%	No	Week 7
Adaptation Plan	40%	No	Week 13
Presentation	15%	No	On going

Name	Weighting	Hurdle	Due
Quiz	21%	No	Week 5, 9, 13

Impacts and adaptation

Assessment Type ¹: Report

Indicative Time on Task ²: 20 hours

Due: **Week 7**

Weighting: **24%**

Through a blog-style essay, you will be assessed on your ability to identify the impacts of climate change on a given sector, and communicate knowledge gaps, appropriate adaptation actions and barriers to adaptation to a non-science audience

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies
- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

Adaptation Plan

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 35 hours

Due: **Week 13**

Weighting: **40%**

This written report will assess your understanding of the breadth of climate impacts on an appropriate sector you have not previously explored, and your ability to research solutions and develop a logical adaptation plan for that sector that accounts for uncertainty and knowledge

gaps.

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies
- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

Presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 10 hours

Due: **On going**

Weighting: **15%**

You will be assessed on your ability to research, summarise and communicate scientifically rigorous information on climate change impacts and adaptation, on a sector of your choice.

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Utilise research skills to identify impacts of climate change on a given sector, and interpret the likely consequences of these for the selected sector.
- Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies

- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

Quiz

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Week 5, 9, 13**

Weighting: **21%**

Three quizzes throughout the semester will test your knowledge on climate change theory, impacts and interactions with the biosphere, and adaptation actions. These will be open book quizzes undertaken via iLearn.

On successful completion you will be able to:

- Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, drawing connections across fields of knowledge
- Evaluate areas of scientific uncertainty and complexity in different sectors, and account for this in adaptation strategies
- Identify barriers and challenges to implementing adaptation responses, and communicate creative approaches to bridge these barriers.
- Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience

¹ 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.

² 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

There will be an in person lecture each week on Thursday from 10 - 11 am. The lecture will be recorded and made available through ECHO360. In addition there will be some readings, videos, pre-recorded material made available that complements that week's lecture theme and which

can be worked through at your convenience. Students have the opportunity to attend the weekly workshop either

- **in person** from 11 am - 12 pm Thursday
- **online** via zoom from 1pm - 2pm Thursday

Teaching materials and online communications will be via the unit website (ilearn.mq.edu.au). This unit requires access to a computer and a reliable internet connection to complete assessment tasks.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>). 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](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

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

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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 or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and

courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

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

The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the 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

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)

Student Enquiries

Got a question? Ask us via [AskMQ](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit 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.