



BIOL876

Climate Change Impacts

S2 Day 2017

Dept of Biological Sciences

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General Information

Unit convenor and teaching staff

Linda Beaumont

linda.beaumont@mq.edu.au

Credit points

4

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

Corequisites

Co-badged status

Unit description

This unit focuses on the impacts of climate change, both those already observed and projections for the twenty-first century, on components of the Earth System including the physical environment, the marine and terrestrial biosphere, biodiversity, ecosystems goods and services, and human health and well-being.

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:

1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
2. Utilise research skills to identify impacts of climate change on a given sector
3. Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
4. Identify areas of scientific uncertainty and complexity with regards to different sectors, and account for this in adaptation strategies
5. Identify barriers and challenges to implementing adaptation responses
6. Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly Quiz	21%	No	weekly
Discussion & participation	15%	No	varied
Impacts/Adaptation website	24%	No	3 October 2017 Wk 8
Adaptation Plan	40%	No	12 November 2017

Weekly Quiz

Due: **weekly**

Weighting: **21%**

Each week, from weeks 2 to 13, there will be an online multiple choice quiz. You will be required to complete at least seven of these (you can do more, in which case the seven highest scores will count towards the final grade). Each quiz will be worth 3% of your total grade. The quizzes will be based on the lecture, tutorial material and recommended readings for the lectures preceding the quiz. Quizzes will take < 1 hour each to complete and are designed to help you keep up with lecture material, identify where you need help or clarification and ensure that you develop a solid knowledge of the concepts introduced throughout this unit. Quizzes will 'open' on Tuesday mornings and remain open for a fortnight. No extensions will be given. Note that as questions will be randomly selected from an available pool, it is likely that students will receive different questions to one another.

On successful completion you will be able to:

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

Discussion & participation

Due: **varied**

Weighting: **15%**

The ability to identify scientifically sound information on climate change and to communicate this to others is a prerequisite for advocacy, action and environmental literacy. Most weeks will have a one-hour class discussion, centred around the topic of

that week. In week 2, students will be required to select two or more topics for which they would like to lead the discussion. The student(s) leading the discussion for a given week will be required to give a short (10 minute) informal talk about the topic, and facilitate a deeper discussion that all students are required to prepare for and participate in. More detailed information on this assessment and participation in general will be provided in week 1, and student-led discussions will begin in week 3.

On successful completion you will be able to:

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
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- 3. Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
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Impacts/Adaptation website

Due: **3 October 2017 Wk 8**

Weighting: **24%**

As part of this unit, we will develop a website that can be used by members of the public to explore climate change impacts and adaptation in Australia. Each year, subsequent classes will add to the website. This activity will require that you identify a system that has already been impacted by climate change (either positively or negatively). You will then develop a summary, infographic and a more detailed 1000-word report for the system, outlining the impacts to date, future potential impacts and options to facilitate adaptation. You are strongly encouraged to make use of CC-0 images and graphs in the report, to aid with communication to a lay audience. All work must be backed by scientific evidence, with the report appropriately referenced. The report will also need to be uploaded through turnitin. Examples of potential systems to explore include, but are not limited to: loss of Gondwanan rainforest in Tasmania; Mangrove dieback in the Northern Territory; extreme temperature-driven mortality of wildlife; impacts of climate change on wine grapes; shifts to the timing of bird migration; shifts in bushfire frequency; increases in heat-related morbidity and mortality of humans; climate impacts on the NSW dairy industry).

On successful completion you will be able to:

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge

- 2. Utilise research skills to identify impacts of climate change on a given sector
- 3. Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- 4. Identify areas of scientific uncertainty and complexity with regards to different sectors, and account for this in adaptation strategies
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Adaptation Plan

Due: **12 November 2017**

Weighting: **40%**

Adaptation assessments are useful tools to identify actions that can be undertaken now or in the near future to anticipate the impacts of climate change and reduce vulnerability. For this assessment, you will select an area of interest (different to that which formed the basis of the impacts and adaptation website assessment) and follow one of several formats to develop an Adaptation Plan. You may select, for example, a major National Park or UNESCO World Heritage Area, a suburb or town, an industry in a given area (horticulture in the Hunter Valley; fisheries along the south-east coast), a health-related issue (rural Indigenous health; asthma), and so on. All topics must be selected in consultation with the unit convenor. The assessment will be approximately 3000 words in length.

On successful completion you will be able to:

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
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Delivery and Resources

Each week, the unit consists of a combination of lectures, tutorials and class discussion. All classes will be held Monday 9am – 12pm, in E4B 208.

ALL STUDENTS MUST ATTEND ALL CLASSES.

There is no text book that has been assigned to this unit, however essential readings will be given for each week.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy_2016.html

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy (in effect until Dec 4th, 2017): http://www.mq.edu.au/policy/docs/disruption_studies/policy.html

Special Consideration Policy (in effect from Dec 4th, 2017): <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student_conduct/

Results

Results shown in *iLearn*, 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.

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) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)

- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

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

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.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- 3. Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
- 4. Identify areas of scientific uncertainty and complexity with regards to different sectors, and account for this in adaptation strategies
- 5. Identify barriers and challenges to implementing adaptation responses
- 6. Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience.

Assessment tasks

- Discussion & participation
- Impacts/Adaptation website
- Adaptation Plan

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
- 2. Utilise research skills to identify impacts of climate change on a given sector
- 3. Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change
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- 5. Identify barriers and challenges to implementing adaptation responses
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Assessment tasks

- Weekly Quiz
- Discussion & participation
- Impacts/Adaptation website
- Adaptation Plan

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
- 2. Utilise research skills to identify impacts of climate change on a given sector
- 3. Demonstrate creative problem solving skills to develop adaptation strategies that increase resilience to climate change

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Assessment tasks

- Weekly Quiz
- Discussion & participation
- Impacts/Adaptation website
- Adaptation Plan

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
- 2. Utilise research skills to identify impacts of climate change on a given sector
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Assessment tasks

- Weekly Quiz
- Discussion & participation
- Impacts/Adaptation website
- Adaptation Plan

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
- 5. Identify barriers and challenges to implementing adaptation responses
- 6. Transfer knowledge and skills regarding adaptation planning to industries/sectors beyond your personal experience.

Assessment tasks

- Discussion & participation
- Impacts/Adaptation website
- Adaptation Plan

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcomes

- 1. Analyse, critique and synthesise knowledge about the impacts of climate change on a broad range of sectors, and drawing connections across fields of knowledge
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