



EESC2160

Climate and Oceans

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

School of Natural Sciences

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General Information

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by arrangement

Lecturer

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Credit points

10

Prerequisites

(ENVE117 or ENVS117 or ENVS1017 or GEOS117 or GEOS112 or GEOS1110 or GEOS126 or EESC1160) or 10cp in PHYS units at 1000 level

Corequisites

Co-badged status

Unit description

The Earth's climate and oceans are intimately linked and are fundamental to life on this planet. This unit explores the climate system and the role that oceans play in regulating climate. The unit examines climate and ocean interactions and processes on a range of spatial scales (local to global) and time scales (daily to decadal and millennial). The unit includes a field trip that introduces students to evidence of climate drivers and responses in marine and coastal habitats such as sea-level rise impacts and adaptation.

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: Demonstrate an understanding of the fundamental links between the climate and oceans to interpret climate-ocean interactions and processes.

ULO2: Apply data collected from measuring and modelling climate-ocean interactions to understand mechanisms of climate and ocean variability.

ULO3: Demonstrate effective individual and team work skills in climate-ocean science to understand and solve real-world environmental problems in both the field and laboratory.

ULO4: Draw on and synthesise appropriate sources of information to communicate ideas about climate drivers and responses in marine and coastal habitats.

General Assessment Information

Assessment Criteria

Assessment at Macquarie University is standards-based, as outlined in the [Assessment Policy](#). This means that your work will be assessed against clear criteria, and these criteria (e.g. in a rubric) will be made available when the assessment tasks are released to you on iLearn.

Submission of Assessments

All assessments must be submitted online through [Turnitin](#) unless otherwise indicated. Links for the submission of each assessment will be available on iLearn.

You should always check that you have uploaded the correct file. If you have a problem, please email the Unit Convenor with your correct file. You must also keep a copy of your assessments until the end of semester in case there is a problem with your submission. It is your responsibility to ensure that you can provide a copy of your assessment if requested.

Marking of Assessments

Assignments will usually be marked through Turnitin with grades provided through Gradebook on iLearn. Please do not submit your assessments via email or in hard copy unless requested (e.g. a sketch or drawing).

We aim to return your assessment grades and feedback within two to three weeks of the date that you submitted it. We appreciate your patience and will advise you through iLearn when your marked assessments and feedback are available for viewing.

Late Assessment Submission Penalty

From 1 July 2022, Students enrolled in Session based units with written assessments will have the following university standard 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:

- Assessment 1 Practical Report – YES, Standard Late Penalty applies
- Assessment 2 Field Report - YES, Standard Late Penalty applies
- Assessment 3 Quiz - NO, unless Special Consideration is Granted

Extensions for Assessments

To obtain an extension for an assessment task, you will need to follow the formal process as outlined in the [Special Consideration Policy](#), and you must provide appropriate supporting evidence (e.g. medical certificate - see advice for [Special Consideration](#) requests). The final decision regarding the granting of an extension lies with the unit convenor. Permission for extensions must be sought **before the due date** unless there are exceptional circumstances. Please let us know of problems in advance or as soon as possible, not after the event. We are likely to be much more sympathetic and able to accommodate your circumstance if you follow this advice.

Assessment Tasks

Name	Weighting	Hurdle	Due
Practical report	20%	No	05/08/2022; 12/08/2022; 26/08/2022; 02/09/2022
Fieldtrip report and presentation	50%	No	14/10/2022
Quizzes	30%	No	10/09/2022; 26/10/2022

Practical report

Assessment Type ¹: Lab report

Indicative Time on Task ²: 12 hours

Due: **05/08/2022; 12/08/2022; 26/08/2022; 02/09/2022**

Weighting: **20%**

Assessment 2 is a practical report worth 20% of the final grade. The report will include experimental data introduced during practicals that is presented with appropriate graphical representation and statistical analysis, and a conclusion drawing correct associations and

inferences from the data. During this assessment task students will develop skills to apply to the fieldtrip report.

On successful completion you will be able to:

- Demonstrate effective individual and team work skills in climate-ocean science to understand and solve real-world environmental problems in both the field and laboratory.
- Draw on and synthesise appropriate sources of information to communicate ideas about climate drivers and responses in marine and coastal habitats.

Fieldtrip report and presentation

Assessment Type ¹: Field work task

Indicative Time on Task ²: 30 hours

Due: **14/10/2022**

Weighting: **50%**

Assessment 3 is a fieldtrip report and presentation based on a 2-day local fieldtrip, worth 50% of the final grade. The content of the report will include an Introduction, Methods, Results, Discussion, Acknowledgements and References. This will be translated to a non-scientific audience in group presentations.

On successful completion you will be able to:

- Demonstrate an understanding of the fundamental links between the climate and oceans to interpret climate-ocean interactions and processes.
- Apply data collected from measuring and modelling climate-ocean interactions to understand mechanisms of climate and ocean variability.
- Demonstrate effective individual and team work skills in climate-ocean science to understand and solve real-world environmental problems in both the field and laboratory.
- Draw on and synthesise appropriate sources of information to communicate ideas about climate drivers and responses in marine and coastal habitats.

Quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 18 hours

Due: **10/09/2022; 26/10/2022**

Weighting: **30%**

Assessment 1 involves two multiple-choice quizzes, each worth 15% of the final grade. Content can be from the lectures, practicals, fieldwork or assigned readings.

On successful completion you will be able to:

- Demonstrate an understanding of the fundamental links between the climate and oceans to interpret climate-ocean interactions and processes.
- Apply data collected from measuring and modelling climate-ocean interactions to understand mechanisms of climate and ocean variability.

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

Unit iLearn

This unit has an iLearn page that can be accessed through ilearn.mq.edu.au. It contains important information and other materials relating to the unit, including details and links for assessments.

Communication

The unit iLearn is the primary way that we communicate with you. Please check it regularly for announcements and posts. You are encouraged to use the Discussion Board on iLearn to post questions and generate discussion with other students. Please only email the convenor with private matters – all other questions should be posted on iLearn.

Unit Organisation

This unit is delivered in **two modules and weekly topics**. A **one day field trip** is also scheduled for this unit outside of normal class time. The organisation of these is outlined in a detailed unit schedule which is available on [iLearn](#).

Classes

The class timetable for this unit can be found through the [Timetable](#) portal. You should also check the unit schedule as some weeks may have other instructions or locations.

Workload

The expected workload for this 10-credit point unit is 150 hours of activity, comprising lecture

attendance and review, practical class attendance and report completion, research towards the completion of the field trip report and presentation, attendance of the field day, and exam preparation.

Requirements to complete this unit satisfactorily

To complete this unit satisfactorily, you must:

1. Participate in all scheduled classes;
2. Complete all assessments including the final exam; and
3. Achieve a pass grade or higher.

The descriptions for grades common to all coursework units offered by Macquarie University are outlined in [Schedule 1 of the Assessment Policy](#).

Recommended Texts and/or Materials

Readings will be provided each week on iLearn

Technology Used and Required

This unit will use iLearn and Echo360. See the [Instructions on how to log in to iLearn](#) and the [iLearn quick guides for students](#) which will help you:

- [Getting started](#) - Find out how to navigate and familiarise yourself with the iLearn environment
- [Activities](#) - Learn how to effectively complete the activities required of you in iLearn
- [Assignments and Gradebook](#) - Find out how to submit assessments and view your grades using iLearn
- [Online study tips](#) - Studying online is a unique experience, learn how to navigate it here
- [Discussion forums](#) - Explore the different types, and features of discussion forums in iLearn
- [Lecture recordings](#) - Find out how to access lectures online, as well as the features available to you

Unit Schedule

EESC 2160 Climate and Oceans Schedule 2022

Week	Date	Lecturer	Lecture Topic	Practical Topic	Assessment
<i>Module 1: Marine Climate Change</i>					

Unit guide EESC2160 Climate and Oceans

1	Wednesday 27th July	NS	Introduction- coupled ocean atmosphere system in time	No practical	
2	Wednesday 3rd August	NS	Palaeo Sea level and coastal morphodynamics	Practical 1 East Australian sea level trend analysis	Assessable Prac due Friday 5th August
3	Wednesday 10th August	NS	Extreme maritime storms	Practical 2 Vertical accretion of intertidal habitats	Assessable Prac due Friday 12th August
4	Wednesday 17th August	NS	Marine climate and weather- ENSO and the IOD	Practical 3 Indigenous perspectives in coastal and marine management	
5	Wednesday 24th August	NS	Estuarine processes	Practical 4 Spatial analysis of habitat change	Assessable Prac due Friday 26th August
<i>Module 2: Coastal processes and management</i>					
6	Wednesday 31st August	NS	Blue Carbon	Practical 5 Indonesia case study	Assessable Prac due Friday 2nd September
7	Wednesday 7th September	TD	Shoreface and surf zone processes	Practical 6 Tidal current data analysis	1st quiz (15%) Fri 10th September
<i>Study Break: 12-25 September</i>					Excursion Sat 17th September Central Coast
8	Wednesday 28th September	TD	Dunes and sand barriers	Practical 7 Storm surge and sea level rise	
9	Wednesday 5th October	TD	Storm surge, coastal flooding and sea-level rise	Practical 8 Managing the Coasts	
10	Wednesday 12th October	TD	Coastal Zone Management	Practical 9 Seminar	Field Report due Fri 14th October (30%)
11	Wednesday 19th October	TD and NS	Field trip group presentations		In class presentations (20%)

12	Wednesday 26 th October	No class	Final Quiz	<i>2nd quiz (15%) Wed 26th October</i>
13	<i>No Class</i>			

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.