EESC2160
Climate and Oceans
Session 2, Weekday attendance, North Ryde 2021
Department of Earth and Environmental Sciences

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Session 2 Learning and Teaching Update
The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the MQ COVID-19 information page for more detail.
**General Information**

Unit convenor and teaching staff

Unit Convenor
Scott Wilson
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Room 438, 12 Wally's Walk

Neil Saintilan
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Neil Saintilan
neil.saintilan@mq.edu.au

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://students.mq.edu.au/important-dates](https://students.mq.edu.au/important-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.

Penalties for Late Assessments

The penalty for late submission of assessments in this unit is ten percent (10%) of the assessment value per day, calculated from the due time and date. This means that if the assignment is worth a total of 30 marks (or 30% of the unit) you will lose 3 marks for each day it is late. This is a hefty penalty designed to make you aware of the importance of organising yourself around assessment due dates. The penalty will be applied over weekdays and weekends unless you have been granted an extension prior to the due date.

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
Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>30%</td>
<td>No</td>
<td>10th September &amp; 28th October 2021</td>
</tr>
<tr>
<td>Practical report</td>
<td>20%</td>
<td>No</td>
<td>Between 7th August - 3rd September 2021</td>
</tr>
<tr>
<td>Fieldtrip report and presentation</td>
<td>50%</td>
<td>No</td>
<td>15th October (report) and 21st October (presentation)</td>
</tr>
</tbody>
</table>

Quizzes

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 18 hours
Due: 10th September & 28th October 2021
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.

Practical report

Assessment Type 1: Lab report
Indicative Time on Task 2: 12 hours
Due: Between 7th August - 3rd September 2021
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: Field work task
Indicative Time on Task: 30 hours
Due: 15th October (report) and 21st October (presentation)
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.

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 Learning Skills Unit for academic skills support.

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**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lecturer</th>
<th>Lecture Topic</th>
<th>Practical Topic</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Module 1: Marine Climate Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Thursday 29th July</td>
<td>SW</td>
<td>Introduction- coupled ocean atmosphere system in time</td>
<td>No practical</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Thursday 6th August</td>
<td>NS</td>
<td>Palaeo Sea level and coastal morphodynamics</td>
<td>Practical 1 East Australian sea level trend analysis</td>
<td>Assessable Pract due Fri 7th August</td>
</tr>
<tr>
<td>3</td>
<td>Thursday 13th August</td>
<td>NS</td>
<td>Extreme maritime storms</td>
<td>Practical 2</td>
<td>Assessable Pract due Fri 14th August</td>
</tr>
<tr>
<td>4</td>
<td>Thursday 20th August</td>
<td>NS</td>
<td>Marine climate and weather- ENSO and the IOD</td>
<td>Practical 3</td>
<td></td>
</tr>
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</table>

https://unitguides.mq.edu.au/unit_offerings/138196/unit_guide/print
## Unit guide EESC2160 Climate and Oceans

<table>
<thead>
<tr>
<th>5</th>
<th>Thursday 27th August</th>
<th>NS</th>
<th>Blue Carbon</th>
<th>Practical 4 Spatial analysis of habitat change</th>
<th>Assessable Pract due Fri 28th August</th>
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</thead>
</table>

**Module 2: Coastal processes and management**

<table>
<thead>
<tr>
<th>6</th>
<th>Thursday 2nd September</th>
<th>SW</th>
<th>Shoreface and surf zone processes</th>
<th>Practical 5 Beach monitoring data</th>
<th>Assessable Pract due Fri 3rd September</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>Thursday 9th September</th>
<th>SW</th>
<th>Estuarine processes</th>
<th>Practical 6 Tidal current data analysis</th>
<th>1st quiz (15%) Fri 10th September</th>
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</table>

**Study Break**

Excursion Sat 11th & Sun 12th September

<table>
<thead>
<tr>
<th>8</th>
<th>Thursday 30th September</th>
<th>SW</th>
<th>Storm surge, coastal flooding and sea-level rise</th>
<th>Practical 7 Storm surge and sea level rise</th>
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</table>

<table>
<thead>
<tr>
<th>9</th>
<th>Thursday 7th October</th>
<th>SW</th>
<th>Coastal Zone Management</th>
<th>Practical 8 Managing the Coasts</th>
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<table>
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<tr>
<th>10</th>
<th>Thursday 14th October</th>
<th>SW</th>
<th>Marine Pollution</th>
<th>Practical 9 Pollution management</th>
<th>Field Report due Fri 15th October (30%)</th>
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</table>

<table>
<thead>
<tr>
<th>11</th>
<th>Thursday 21st October</th>
<th>SW</th>
<th>Field trip group presentations</th>
<th>In class presentations (20%)</th>
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</table>

<table>
<thead>
<tr>
<th>12</th>
<th>Thursday 28th October</th>
<th>SW</th>
<th>Final Quiz</th>
<th>2nd quiz (15%) Thu 28th October</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>13</th>
<th>Thursday 28th October</th>
<th>No Class</th>
</tr>
</thead>
</table>

### 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). 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
Students seeking more policy resources can visit the 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).

**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

**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 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 Enquiry Service
For all student enquiries, visit Student Connect at ask.mq.edu.au
If you are a Global MBA student contact globalmba.support@mq.edu.au

Equity 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.

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.