



# ENVS3101

## Marine Climate, Weather and Coastal Oceanography

Session 2, Special circumstance, On location at placement 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

Neil Saintilan

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By appointment

Katherine Dafforn

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Credit points

10

Prerequisites

(100cp at 1000 level or above) including (ENVE216 or ENVS216 or ENVS2116 or GEOS216 or ENVS2115 or ENVS214 or ENVE214 or GEOS251)

Corequisites

Co-badged status

### Unit description

Our oceans regulate and drive climate change, whilst the coastal and shelf environments experience some of the greatest impacts of climate change. This unit provides students with a comprehensive understanding of these interactions and impacts on a range of scales (ocean basin to regional coast) and time scales (past millennia to future decades). The unit is taught in three modules:

Module 1 – Marine Climate Change: Past and Future Long-Term Changes in Marine Climate and Coastal Dynamics. The module covers sea-surface temperature, precipitation, ocean currents, extreme maritime storms. Seasonal, annual, decadal and centennial modes of ocean-atmosphere variability and predictability, evidence-based and modelling approaches to sea surface temperature, salinity and sea-level rise, including coastal morpho-dynamic responses.

Module 2 - Coastal Oceanography covers continental shelf currents, coastal winds, wave transformation, sea-level variability, shoreface and surf zone processes, estuarine processes, storm surges, coastal flooding and sea-level rise.

Module 3 – Implications for coastal zone planning and management. Pollution control, management of shoreline erosion, policy and legislative approaches to marine estate and coastal zone management in New South Wales.

## 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:** Interpret marine and coastal climate change using the archive of paleoclimate data, instrumental observations and modelled projections

**ULO2:** Analyse the modes of coastal evolution and climate variability, on decadal to millennial timescales, as a basis for interpreting modern trends and events in coastal configuration and morphology

**ULO3:** Evaluate the mechanisms of sea-level change, impacts on regional coasts and adaptation measures

**ULO4:** Develop cogent management solutions to pressing coastal environmental problems, based on relevant data and models

## General Assessment Information

### GENERAL ASSESSMENT CRITERIA

## 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 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.

## Exams

Details of exam conditions and timetables can be found on the [Exams and Results](#) portal. The draft exam timetable will be released approximately eight weeks before the commencement of the exams. The final exam timetable will be published 4 weeks before commencement. All students (including exchange students) are expected to present themselves for the exam at the

time and place designated in the exam timetable. Note this may include weekends.

For unavoidable disruptions during exams, you should apply for [Special Consideration](#) as soon as possible. If a Supplementary Examination is granted as a result of the Special Consideration process, the exam time will be scheduled after the conclusion of the official examination period and you will receive an individual notification prior to the exam with the exact date and time of the Supplementary Examination. You will only be allowed one opportunity to sit the Supplementary Exam as outlined in the [Special Consideration Policy](#).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">SGTA Reports</a>	40%	No	Friday following the practical class
<a href="#">Research Assignment</a>	20%	No	Friday 2 October
<a href="#">Final Examination</a>	40%	No	Examination week

### SGTA Reports

Assessment Type [1](#): Report

Indicative Time on Task [2](#): 25 hours

Due: **Friday following the practical class**

Weighting: **40%**

Assessment 1 requires the submission of computer-based SGTA reports. The content of each report will include analyses and interpretation of SGTA activities.

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- Evaluate the mechanisms of sea-level change, impacts on regional coasts and adaptation measures

### Research Assignment

Assessment Type [1](#): Literature review

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **Friday 2 October**

Weighting: **20%**

Assessment 2 is a literature review and synthesis that draws together themes from the three modules in the unit.

On successful completion you will be able to:

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- Develop cogent management solutions to pressing coastal environmental problems, based on relevant data and models

## Final Examination

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

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

Due: **Examination week**

Weighting: **40%**

Final examination covering all lecture and SGTA material.

On successful completion you will be able to:

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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

### Unit iLearn

This unit has an iLearn page that can be accessed through [ilearn.mq.edu.au](http://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 **(modules/weekly topics)**. 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 written assignment, 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 and 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

Week	Date	Lecturer	Lecture Topic	Practical Topic	Assessment
Module 1: Marine Climate Change					
1	Monday 27 <sup>th</sup> July	NS	Introduction- coupled ocean-atmosphere system in time	No practical	
2	Monday 3 <sup>rd</sup> August	NS	Palaeo Sea level and coastal morphodynamics	Practical 1 East Australian sea-level trend analysis	<b>Assessable Prac due Friday 7<sup>th</sup> August</b>
3	Monday 10 <sup>th</sup> August	NS	Extreme maritime storms	Practical 2 Vertical accretion of intertidal habitats	<b>Assessable Prac due Friday 14 August</b>



4	Monday 17 <sup>th</sup> August	NS	Marine climate and weather- ENSO and the IOD	Practical 3  Indigenous perspectives in coastal and marine management	
Module 2: Coastal processes					
5	Monday 24 <sup>th</sup> August	KD	Shoreface and surf zone processes	Practical 4  Beach monitoring data	<b>Assessable Prac due Friday 28 August</b>
6	Monday 31 <sup>st</sup> August	KD	Estuarine processes	Practical 5  Tidal current data analysis	
7	Monday 7 <sup>th</sup> September	KD	Storm surge, coastal flooding and sea-level rise	Practical 6  Storm surge and sea level rise	
Module 3: Coastal zone planning and management					
8	Monday 28 <sup>th</sup> September	NS	Coastal planning in NSW	Zoom meeting with NSW coastal planners	<b>RESEARCH REPORT DUE Friday October 2<sup>nd</sup></b>
9	Monday 5 <sup>th</sup> October	Public Holiday			
9	Saturday 10 <sup>th</sup> October	<b>Excursion</b>			
10	Monday 12 <sup>th</sup> October	NS	Blue Carbon	Practical 7  Spatial analysis of habitat change	<b>Assessable Prac due Friday 16 October</b>
11	Monday 19 <sup>th</sup> October	NS	Marine Pollution	Practical 8  Marine pollution event and emergency response	
<b>FINAL EXAMINATION: SEMESTER 2 EXAMINATION PERIOD</b>					

## 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](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://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](http://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.