# GEOG409 Coasts and Rivers: from natural processes to urban environments

# **Course Handout 2019**

### Overview

Nau mai ki GEOG409 - welcome. GEOG409 concerns how to research and understand aspects of rivers, catchments, coasts and oceans, including how coastal and fluvial geomorphic processes interact with urban environments. Understanding these processes is essential for effective environmental management, and for building resilient settlements. This year’s lecture contributors are Dr Deirdre Hart (course coordinator, [deirdre.hart@canterbury.ac.nz](mailto:deirdre.hart@canterbury.ac.nz), Geography Building Room 402, ph 369 4062) and Professor Matthew Wilson (lecturer, [matthew.wilson@canterbury.ac.nz](mailto:matthew.wilson@canterbury.ac.nz); ph 369 2245, Biological Sciences Building Room 418).

Please read this handout carefully as it will help to ensure that you succeed in the course. It contains basic information about how the course is structured, taught and assessed, what you are expected to do, and when you need to do it (see summary in Table 1). If you have any problems or difficulties in the course, see your lecturers, the GEOG409 coordinator, or the level coordinator for GEOG400 Dr Ben Adams ([benjamin.adams@canterbury.ac.nz](mailto:benjamin.adams@canterbury.ac.nz)).

### Learning outcomes

For the environments explored during GEOG409, you will be expected to:

* critically evaluate and synthesise scientific and environmental research and management frameworks;
* formulate opinions and key questions about the current and likely-future effects of human-use of physical systems and how to measure and monitor these; and
* explore a diversity of solutions to environmental research and management challenges.

The corresponding learning outcomes for this course will be both knowledge-oriented and skill-oriented. By successfully completing GEOG409, you should:

* be able to describe, research and analyse the complexity of selected fluvial and coastal systems;
* be able to evaluate theories about human impacts on these environments;
* have awareness of, and your own opinions about, the scope and limitations of current institutional frameworks for these environments in New Zealand and elsewhere;
* gain experience in analysing, interpreting and solving complex environmental research problems; and
* gain experience in conducting and presenting research to international standards.

### Course requirements

You must complete all of the course requirements to be eligible to pass. That is, to be eligible to be credited with a pass in GEOG409, you must meet the following course requirements:

* participate satisfactorily in seminar classes;
* participate satisfactorily in individual assessments;
* participate satisfactorily in group assessments; and
* complete the end-of project peer contribution assessment forms for fellow group members.

### Course structure, delivery, and workload

GEOG409 is structured around weekly contact sessions (Table 1), each with associated preparation, seminar talks and exercises, and links to the assessment work. You need to spend **around 20 hours on GEOG409 work each week of Semester 1**. Some of this work will be as an individual and some as part of a group. We are all in this together, so it is essential you make room for prep and assessment activities in your weekly plans. Please try to email Deirdre if you plan to be absent from class, so we can work around your absence - everyone is a key team member in GEOG409.

From this page you can find the GEOG409 Course Information Page (CIS):

[http://www.canterbury.ac.nz/courseinfo/GetCourses.aspx?orgunitcode=GEOG&year=2019](http://www.canterbury.ac.nz/courseinfo/GetCourses.aspx?orgunitcode=GEOG&year=2018)

Table 1. GEOG909 Course Timetable 2019\*

|  |  |  |  |
| --- | --- | --- | --- |
| Course week and seminar date | Seminar topic  (Room SOCI210 + BYO Devices, except for fieldtrip) | Seminar leader(s) | Assessment reminders and due dates/ times |
| 1. 19-Feb | Introduction to course, assessment, and 'delta city' environments | DH (+MW visit) |  |
| 1. 26-Feb | Coast and river environment multi-hazards (including 14thMarch 2014 case study) | DH |  |
| 1. 5-Mar-18 | Assessing climate change effects on coasts | DH |  |
| 1. 12-Mar | Student literature presentations 1 | Students (DH + MW) | Literature review and talk due in class (handout + slides uploaded by class time online/ deliver talk in class talk) |
| 1. 19-Mar | Student literature presentations 2 | Students (DH + MW) | Literature review and talk due in class (handout + slides uploaded by class time online/ deliver talk in class talk) |
| 1. 26-Mar | Field tour of selected Christchurch sites: meeting location TBA | DH + MW | Project proposals due Monday 5pm online. |
| 1. 2-Apr | Researching coastal hydrosystems | DH | We aim to give proposal feedback this week. |
|  | Mid-term break |  |  |
| 1. 30-Apr | Rivers, risk and society | MW |  |
| 1. 7-May | Hands-on river modelling [BYO devices with MS Excel] | MW |  |
| 1. 14-May | Extreme rivers: Priscu Stream, Antarctica | MW |  |
| 1. 21-May | Extreme rivers: Solimões River, Amazonia | Matt |  |
| 1. 28-May | Student group project presentations | Students (DH + MW) | Group project presentations and peer assessments due in class, followed by individual poster due online and via GEOG assignment dropbox by 5pm Weds next week. |

\*CIS (online course information system for some lab venue info): [http://www.canterbury.ac.nz/courseinfo/GetCourseDetails.aspx?course=GEOG409&occurrence=18S1(C)&year=2019](http://www.canterbury.ac.nz/courseinfo/GetCourseDetails.aspx?course=GEOG409&occurrence=18S1(C)&year=2018)

Seminars will typically have time for a 10 minute break to leave the class or stay – whatever feels right. We recommend reminding your lecturers about the 10 min break time as they are unhealthily comfortable working without breaks, so might forget – we will all be more productive if we take a breather! Food and drink can be consumed during class - encourage you to bring lunch and/or snacks to nibble and keep you going during the breaks or in class as needed.

You are also expected to familiarise yourself with the Moodle LEARN software, our web-based course system (see assistance information later in this handout) as this is how you can submit assignments, and obtain some extra seminar/ lab and assignment information. It is important that you login and start working with the course LEARN pages from the first week of term onwards. To succeed in GEOG409 you need to consult the library electronic databases widely (e.g. Scopus or Web of Science) for journal articles and other literature for course assignments. Please do not simply rely on Google or Google Scholar searches for research materials (to find out why, do a web search to find out about your ‘filter bubble’).

### Assessment

Make sure that you fulfil the course requirements (see earlier) - if you don’t complete these then, even if you get over 50% in assessment, you cannot pass the course. Assessment is spread over both terms, has a mix of individual and group work, and requires you to start working from the first week. Formal assessment for the course is as follows:

* 35% individual literature review;
* 15% group proposal;
* 15% group project presentation; and
* 35% individual project poster write-up.
* You are also required to complete a confidential peer assessment at the end of the project work.

See LEARN submission links and Table 1 for this year’s internal assessment deadlines.

In addition to the above requirements, you will also be asked to fill in anonymous but non-confidential peer feedback forms for in-class student presentations – these will be handed back to presenters with their marks and lecturer feedback so need to be completed in a professional manner.

We recommend ALL students use the UC Academic Skills Centre, including their workshops, individual appointment services and online resources: <http://www.canterbury.ac.nz/support/asc/>. Also, see the library search and skills workshop links: http://www.canterbury.ac.nz/library/support/.

Please note that LEARN processes GEOG409 assignments through the copying checking software programme *Turnitin*. You may wish to submit written assignments early to take advantage of the *Turnitin* option for an initial originality report, polishing your work and resubmitting it by the due date. Note that *Turnitin* requires between 1 and 24 hours to provide an originality report so submit a few days before your due date to allow time for the report to be generated, for you to make any changes, and to resubmit your final polished version.

Assessment is marked by course lecturers using the standard grading system detailed in the Geography Undergraduate Handout. Marking schedules for each assessment are included later in this handout. If you feel your work has not been marked fairly, or if you would like further explanation of the mark, see your lecturer, course co-ordinator or the HOD – s/he will be happy to discuss the reason for the marks and feedback you have received, and/or may arrange for a third party to reassess it.

Please note that many of your 400-level courses, including GEOG409 and GEOG420, will have assessment due in clumps during the final weeks of term and semester. Many students find 400-level to be a ‘pressure cooker’ year. In order to succeed you need to get organised early and do much of the work well before due dates. Please plan ahead! Note that department policy prohibits the granting of extensions based on clashes with other assignments.

In addition to the structured timetable and assessment items, you will be expected to spend considerable time reading and to keep up to date with major academic and public/ media debates on river, catchment, lake, ocean and coastal research and management issues. You will also get more experience and enjoyment from learning about coasts and rivers if you participate in the local/ national research/ professional communities. This could take many forms, including: GEOG lunchtime seminars, NIWA seminars, public or local government meetings, or joining the NZ Coastal Society, Hydrological Society, Rivers Group, Marine Sciences Society, for example. *NIWA Seminars:* 10 Kyle St, Christchurch, for information, ph 348 8987 and ask about signing up to the ‘seminar email list’.

<http://www.coastalsociety.org.nz/> New Zealand Coastal Society is the professional society of NZ coastal experts and employers, educators and students. Student membership is free and highly recommended. Membership gets you newsletters, email digests with coastal news and jobs, and cheap conference registration. The society holds its conference usually in November. Anyone interested in attending to present some of their coastal research should talk to Deirdre about funding possibilities.

### Graduate research ideas

If you are considering postgraduate thesis work, feel free to talk to Deirdre and Matt about projects aligned with their supervision and research interests, as well as for suggestions of how to gain research funding or in-kind support. In addition to awards open to all students (http://www.canterbury.ac.nz/get-started/scholarships/), several are specifically for coastal or fluvial thesis students.

* New Zealand Coastal Society (https://www.coastalsociety.org.nz/) provides Masters and PhD Scholarships annually plus awards for the best student oral presentation at their annual conference.
* UC Coastal and Ocean Engineering Conference Fund provides grants of up to $1000 to students in Geography and Civil Engineering to present a paper related to their coastal research at Australasian conferences (see Deirdre for details). It is a good idea to think about attending a conference during the course of your graduate studies. Most close for presenters 6 to 8 months before the conference so, if interested, it is best to get on to your idea and application fast.
* New Zealand Marine Sciences Society provides grants for student research, travel to your first overseas conference, to attend their annual conference: http://nzmss.org/.

### RW Morris Prize: Up to two prizes are awarded annually for outstanding Geography coastal honours work.

Other funding possibilities to research include:

* PADI Foundation,
* <http://www.padifoundation.org/>;
* Coastal Restoration Trust of NZ,
* <http://www.coastalrestorationtrust.org.nz/>;
* Our World Underwater Rolex Scholarship,
* <http://www.owuscholarship.org/>;
* Sam and Pam Stewart Memorial Scholarship:
* See UC scholarship pages for this 2-yearly river research scholarship.
* Ralph Brown Expedition Award, see the Royal Geographical Society website;
* Australasian Hydrographic Society Education Award,
* <http://www.ahs.asn.au/AHS_Award.html>**;**
* **NZ ESRI Young Scholar of the Year Award,**
* <http://www.eagle.co.nz/GIS/GIS-in-Education/GIS-in-Higher-Education/NZ-Esri-Young-Scholar-Award-2016/>.

### UC Geography Undergraduate Handbook

This course handout is designed to be read in conjunction with the Te Whare Wānanga o Waitaha University of Canterbury (UC) Geography Undergraduate Handbook: <https://www.canterbury.ac.nz/media/documents/oexp-science/geography/GEOG2018_Undergrad_HBK.pdf>. The Geography Handbook contains vital information applicable to all undergraduate geography courses, as well as information relevant to you at graduate (400) level. An edited extract of some key information from the Handbook is included, for convenience, at the end of this course handout.

Course coordinator’s message

We hope that you enjoy GEOG409 and look forward to getting to know you better. Since this is a 400-level course, you can expect lots of individual and group work with your peers and lecturing staff, plus contact with other experts. This course is a stepping stone to professional life, so we have designed it to include experiences akin to those of a workplace. Your active participation in the course is essential – this will not be a ‘sit back and absorb the learning’ experience. Likewise we are keen to know about your specific interests and aspirations, and are ready to adapt aspects of the course to suit this year’s participants – so keep the communication open, and provide us with your feedback. We hope that you have fun and enjoy the experience – we are certainly looking forward to learning from you.

Ngā mihi,

Deirdre

Geography Course Information

# Course resources

Most information for Geography courses, including handouts and a host of resources, are supplied through LEARN and via email. You should regularly look at the specific course LEARN homepage and check your University email. If you have problems with your account or web access, contact Paul Bealing, [paul.bealing@canterbury.ac.nz](mailto:paul.bealing@canterbury.ac.nz)

# Want your best grades?

<http://www.canterbury.ac.nz/support/asc/> We HIGHLY recommend you use the UC Academic Skills Centre Pokapū Pūkenga Ako, free to all UC students and including online resources, short courses, and individual 50-minute or drop-in 5-min appointments for help improving assignments. Every student should consider using the Academic Skills Centre. Note that 50-min appointments fill up fast around due dates.

# Disability or medical condition?

Students with a disability or medical condition are advised to contact the Disability Support Service, especially if you intend to participate in labs or field trips: http://www.canterbury.ac.nz/disability/.

Behaviour

UC promotes a world class learning environment, where students are free to pursue academic interests in an environment that balances individual rights and collective responsibilities. Please familiarise yourself with the UC Student Code of Conduct: <http://www.canterbury.ac.nz/ucpolicylibrary/GetPolicy.aspx?file=Student-Code-Of-Conduct.pdf>

All members of the UC community are bound by the laws of New Zealand. Any actual or suspected breach of law will be referred to the appropriate authorities for investigation. UC regards harassment of any kind, whether on or off campus, as unacceptable. UC reserves the right to take action to prevent the occurrence or recurrence of harassment and to prosecute offenders: see the Harassment Policy via the policy library link: [www.canterbury.ac.nz/ucpolicy](http://www.canterbury.ac.nz/ucpolicy). Please note that such behaviour can ultimately result in perpetrators being expelled/ trespassed.

The University has several other key policies and procedures that apply to staff and students, available via the UC Policy Library.

# Course feedback, issues

Class reps are student representatives who provide an important link between classes and lecturers by acting as a liaison. Class reps are the first point of contact for help resolving class issues at a low level, helping to avoid bigger problems later on. Class reps also provide the UCSA with student views and help them keep in touch with issues and concerns. We ask for reps at the start of a course - if you are considering the role, note that it makes for a nice addition to your CV.

If you would like further explanation of an assessment mark received, see your marker first. If you feel that your work has not been marked fairly, see the course coordinator who may have the work reassessed. If there is a problem relating to the course, attempt first to resolve it by discussion with your lecturer (possibly via the class rep). If there is no resolution, see the course coordinator. Should there still remain issues, you can approach the Head of Department, or seek advice from the University Grievance Advisor, or the UCSA.

# Grading

A uniform grading scheme is used in Geography:

A+ Exceptional, superb! 90-100%

A Excellent 85-89%

A- Very good 80-84% B+ Good 75-79%

B Competent 70-74%

B- OK 65-69%

C+ Satisfactory 60-64%

C Pass 55-59%

C- Very marginal pass 50-54%

D Fail 40-49%

E Pretty awful! 0-39%

# Special consideration

For assessment items worth ≥10%, you may apply for special consideration if your performance is affected by extenuating circumstances beyond your control (e.g. illness, injury, bereavement or another critical circumstance). Applications are made via http://www.canterbury.ac.nz/study/special-consideration/. Prior to applying for such consideration, check with your course coordinator in case other options are more appropriate (e.g. an extension).

# Extensions and late work

Extensions are given in exceptional circumstances of illness, accident or bereavement (not for workload issues). Use the official ‘Extension Request’ form available from level 5 in the Geography Department, and take it to a course coordinator. Only course coordinators can give extensions. Major coursework work (≥10%) handed in late without an extension is subject to the following penalties: up to 1 week late = 2 grade penalty (e.g. A to B+); more than 1 week late but before coursework handback = 4 grade penalty (e.g. A to B-); after course-work handback = 8 grade penalty (e.g. A to D). In many courses, all assessment must be completed, however late, as a requirement to pass the course.

# Dishonest and improper practices

Every year several students fail Geography courses due to dishonest or improper practices. These include, but are not limited to, copying other students’ work, copying or not correctly citing, quoting and/or referencing web or literature sources, plagiarism, sharing UC login details, and bringing notes into a closed-book exam. Please note that in many courses, assignments are processed through the plagiarism checking tool Turnitin ([http://turnitin.](http://turnitin/) com/) to check for copying within years, with previous years, across published and online literature and information sources, and to store work for comparison with future courses. For hard copy assignment submissions, Geography has an assignment cover sheet requiring you to read and sign an honesty declaration. Equivalent declarations are included with a tick box in online submissions.

Students are offered help in 100-level courses to understand what plagiarism and other types of inappropriate academic practice are, and how to avoid them. A useful guide can be found at: http://www.canterbury.ac.nz/library/support/citations-and-referencing/. Ultimately it is YOUR responsibility to make sure you know what dishonest academic practices are and to avoid them. Do not share electronic copies of individual course work with other students – if you do and this work is submitted in part or whole by another, then you will face consequences, alongside the copier of your material. If someone needs help, provide verbal advice – do not share your files.

If your assignment contains problematic material, you will be invited to meet with the HOD and course coordinator to explain. If you choose not to meet, or cannot offer acceptable explanation, then you may receive a zero grade or be referred to a UC Proctor for investigation (this happens to someone every year!). Your UC grades may be withheld until the case is resolved. If you are found guilty of any kind of dishonest academic practice, your details will be recorded on the university’s dishonest practice register for 10 years.

# Useful links

Online resources: <http://www.canterbury.ac.nz/support/asc/services/resources/> and http://www.canterbury.ac.nz/library/support/

Academic Integrity Guidelines: http://www.canterbury.ac.nz/about/governance/ucpolicy/

Academic Integrity/ Breach of Instructions Regs: http://www.canterbury.ac.nz/regulations/general-regulations/academic-integrity-and-breach-of-instruction-regulations/

GEOG409 assessment 2019

Background

The assessment this year in GEOG409 focusses on understanding **erosion and/or flooding phenomena in Ōtautahi Christchurch**, so that we can learn to improve our approach to living with water (fresh and salty!) in the city now and into the future. This theme is inspired, amongst other national and international happenings, by post-quake Christchurch City Council (CCC) activity in the flood and coastal hazard adaptation spaces, such as:

<https://www.ccc.govt.nz/environment/land/livingwithwater/coastalhazards/>,

<https://www.ccc.govt.nz/environment/land/livingwithwater>, and

<https://www.ccc.govt.nz/environment/water/water-flooding/>.

Largely occupying a low-lying, gently sloping river delta and coastal progradation plain, Christchurch city is inherently prone to several different types of pluvial, fluvial and coastal flooding and erosion hazards. We know, in general terms, the physical process, built environment and human components of these hazards, though little concentrated research has analysed factors involved in specific types of event. Gaps exist in our understanding of the reasons why different parts of the city flood and/ or experience erosion and how they might respond in future. Gaps include understanding variability and trends in, and interactions between, weather, climate, average sea levels, tides, El Niño Southern Oscillation (ENSO) and the Inter-decadal Pacific Oscillation (IPO) effects, groundwater tables, tsunami, topography, catchment cover, infrastructure, the extent and nature of development, and multi-hazard factors.

Another complicating factor for CCC projects examining erosion or flooding is Christchurch’s multi-hazard environment. Multi-hazards occur where multiple hazard processes interact, combine and/or influence each other such that the sum of the effects of individual hazards is not the same as the multi-hazard reality. One example of this is the increase in flood hazard that resulted from the Canterbury Earthquake Sequence (CES), a multi-hazard interaction which has been termed a hazard cascade (Allen et al 2014). There are many other types of multi-hazard interaction (Gill and Malamud 2014; Hart and Hawke 2017). Given this context, any thorough evaluation of Christchurch’s urban erosion or flooding problems should at least *consider* the role of multi-hazard interactions.

Assessment overview

Your task is to research a significant erosion and/or flooding phenomena that affects some or all of Christchurch, to analyse where and why, and to draw lessons pertinent to our understanding of the future erosion and/or flooding challenges faced by this city in ‘living with water’.

In order to decide your groups’ specific topic, you first need to perform some preliminary investigations. These might include analysis of literature (including the individual literature review assignment), data resources available or collectable, the city-scape, and the skills and interests that various group members bring to the table, and discussion of your project scope, including your specific event, and its temporal, spatial and thematic coverage. Then you need to prepare a joint group proposal, and to eventually complete a group research project on your chosen topic. Details of the sub-tasks and deliverables are included below.

You will be assigned a group to work in during seminar 1. It is then up to your group to collaboratively organise a regular weekly group meeting, and to project-manage your work using a schedule of tasks and other tools. You will be asked to update the class on the group’s research progress, and issues you need help in solving, during each class seminar. Your assessed deliverables are detailed overleaf, and include (1) an individual paper review; (2) a group proposal; (3) a group presentation; and (d) an individual poster.

Starter resources

Note: you need to incorporate a fair amount of local AND international, quality assured literature in each assessment product. This is a 400-level course, so we are expecting you to start operating at research level. Following are a few literature and other resources that may or may not be of use for your specific topic. For convenience as you start out researching possible topics, this list has been roughly divided into sources that focus on local, national or international topics or scales (but please do not make such a division in any assignment reference lists).

**Local**

* Allen, J., Davis, C., Giovinazzi, S. and Hart, D.E. (2014) *Geotechnical & flooding reconnaissance of the 2014 March flood event post 2010-2011 Canterbury earthquake sequence, New Zealand. Geotechnical Extreme Events Reconnaissance Association Report No. GEER035*, 134p. <http://www.geerassociation.org/GEER_Post%20EQ%20Reports/Christchurch_Flood_2014/index.html>
* Boyle, A., Surman, M. (2007) “Waimakariri River floodplain management strategy: flood hazard risk assessment”, Report prepared for Environment Canterbury, Christchurch, 79p.
* Brown, L. J., and Weeber, J. H. (1992). *Geology of the Christchurch urban area: Institute of Geological and Nuclear Sciences Geological Map 1*. Institute of Geological and Nuclear Sciences, Lower Hutt, NZ, Scale 1:25,000.
* CCC, Christchurch City Council (2016) Floor levels map: <http://maps.cera.govt.nz/advanced-viewer/?Viewer=Ccc-Floor-Levels>
* CCC, Christchurch City Council. (2014). *Mayoral flood taskforce temporary flood defence measures final report part b: Issues and options*. Report 14/894027, 120p, available from: <https://ccc.govt.nz/assets/uploads/14-894027-final-taskforce-report-part-b-issues-and-options-august-2014-task-force.pdf>
* Comfort, J.A. (1995). *Lessons from the past: A history of coastal hazards at South Brighton Spit, Christchurch.* Unpublished Master of Arts Thesis (Geography), University of Canterbury, Christchurch, 147p*.*
* Connell, R. J., and Pearson, C. P. (2001). “Two-component extreme value distribution applied to Canterbury annual maximum flood peaks”, *Journal of Hydrology (NZ*), 40(2), 105-127.
* Findlay, R. H., and Kirk, R. M. (1988). “Post‐1847 changes in the Avon‐Heathcote Estuary, Christchurch: A study of the effect of urban development around a tidal estuary”, *New Zealand Journal of Marine and Freshwater Research*, 22(1), 101-127.
* Griffiths G., Pearson C., and McKerchar, A, (2009). “Review of the frequency of high intensity rainfalls in Christchurch”, *NIWA report CHC2009*, prepared for Christchurch City Council and Environment Canterbury, 26p.
* Hart D.E., Marsden I., Francis, M. (2008). “Coastal systems”, In: Winterbourne, M, Knox, G.A, Marsden, I.D., Burrows, C. (eds). Natural History of Canterbury, 3rd edn. Chapter 20, Canterbury University Press, Christchurch, pp.
* Hughes, M.W., Quigley, M.C., Van Ballegooy, S., Deam, B.L., Bradley, B.A., Hart, D.E. and Measures, R.J. (2015) The sinking city: Earthquakes increase flood hazard in Christchurch, New Zealand. *GSA Today.*
* Lane, E., Arnold, J., Sykes, J. and Roulston, H. (2012). Modelling coastal inundation in in Christchurch and Kaiapoi from a South America tsunami using topography from after the 2011 February earthquake”, *Environment Canterbury Report R12/38*, prepared by the National Institute of Water & Atmospheric Res., Christchurch, NZ, 35p.
* McFadgen, B. G., and Goff, J. R. (2005). “An earth systems approach to understanding the tectonic and cultural landscapes of linked marine embayments: Avon‐Heathcote Estuary (Ihutai) and Lake Ellesmere (Waihora), New Zealand”, *Journal of Quaternary Science*, 20(3): 227-237.
* Phillips, M. (2018). Re-evaluation of the Environment Canterbury storm ranking table and its implications on Southern Pegasus Bay. Unpublished Geography Honours report, University of Canterbury. [available from GEOG311 Learn]
* Stephens, S. (2015). “The effect of sea level rise on the frequency of extreme sea levels in New Zealand”, *NIWA Client Report No. HAM2015-090*, prepared for the Parliamentary Commissioner for the Environment PCE15201, Hamilton, 52p.
* Tonkin & Taylor. (2017). *Coastal hazard assessment for Christchurch and Banks Peninsula*, Report prepared for the Christchurch City Council, 67p + appendices.
* Wilson, J. (1989). *Christchurch - Swamp to city: A short history of the Christchurch drainage board, 1875-1989*, Te Waihora Press, Lincoln, NZ, 96p + maps.

**National**

* Bell, R. G., Goring, D. G., and de Lange, W. P. (2000). "Sea-level change and storm surges in the context of climate change", *Transactions of the Institute of Professional Engineers New Zealand*: General Section, 27(1), 1-10.
* Bryan, K.R., Kench, P.S., and Hart, D.E. (2008). Multi-decadal coastal change in New Zealand: Evidence, mechanisms and implications.*New Zealand Geographer 64*(2), 117-128. doi:10.1111/j.1745-7939.2008.00135.x
* Callaghan, D.P., Roshanka, R., Short, A.D. (2009). “Quantifying the storm erosion hazard for coastal planning”, *Coastal Engineering 56*(1), 90-93.
* Godoi, V. A., Bryan, K. R., and Gorman, R. M. (2016). “Regional influence of climate patterns on the wave climate of the southwestern Pacific: The New Zealand region”, *Journal of Geophysical Research: Oceans*, 121(6), 4056-4076.
* Hannah, J., and Bell, R. G. (2012). “Regional sea level trends in New Zealand”, *Journal of Geophysical Research: Oceans*, 117(C1), doi 10.1029/2011JC007591.
* Heath, R.A. (1979). Significance of storm surges on the New Zealand coast. *New Zealand Journal of Geology and Geophysics* 22(2): 259–266.
* LINZ, Land Information New Zealand. (2018). *Tidal level table*, <https://www.linz.govt.nz/sea/tides/tide-predictions/standard-port-tidal-levels>, (accessed Jan 10, 2018).
* Merfield, G. (2018). *Combining quantitative and qualitative analysis for a better understanding on New Zealand’s extreme sea level events in relation to storm tracks*. Unpublished Geography Honours report, University of Canterbury. [available from GEOG311 Learn]
* NIWA, National Institute of Water and Atmospheric Research. (2016). “April 1968 New Zealand Ex-tropical Cyclone Giselle (1968-04-09)”, New Zealand historic weather events catalogue, <https://hwe.niwa.co.nz/event/April_1968_New_Zealand_Ex-tropical_Cyclone_Giselle>, accessed Jan. 8, 2018).
* NZGD, New Zealand Geotechnical Database. (2017). <https://www.nzgd.org.nz> (accessed Oct. 2017).

**International**

* de Alegria-Arzaburu, A.R., Masselink, G. (2010). “Storm response and beach rotation on a gravel beach, Slapton Sands, UK”, *Marine Geology* *278*(1-4), 77-99.
* Gill, J.C., & Malamud, B.D. (2014). Reviewing and visualizing the interactions of natural hazards. *Reviews of Geophysics 52*(4), 680-722.
* Harley, M.D., Turner, I.L., Splinter, K.D., Phillips, M.S., Simmons, J.A. (2016). “Beach response to Australian East Coast Lows: a comparison between the 2007 and 2015 events, Narrabeen-Collaroy Beach”, *Journal of Coastal Research*, *75*(sp1), 388-392.
* Hart D. E., Byun D.-S., Giovinazzi S., Hughes M. W., and Gomez C. (2015). “Relative sea level changes on a seismically active urban coast: Observations from laboratory Christchurch”, *Proceedings of the Australasian Coasts & Ports Conference* Sept 15-18, 2015, Auckland, NZ, 6p.
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* Lamb, J. (1997). *Risks & Realities: A Multi-disciplinary Approach to the Vulnerability of Lifelines to Natural Hazards*. Centre for Advanced Engineering, University of Canterbury.
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1. Individual literature review (presentation + handout)

For this task you are to select one key journal article to review and make a class presentation around. Before going too far in your work, you must check your selected article with Deirdre and/or Matt. Email these lecturers a link to the article and your reasoning behind its choice. This ensures that there are no double ups (first-in with their selection gets that article) and that articles are of an appropriate topic and quality for the class. Your article needs to be on a topic that is related to, and could help with, your contribution to the group research project. **Do not think of this as writing about one article in isolation** - in reviewing your key article, we expect to hear about what came before in the literature (i.e. the context that the article came out of), as well as how the article has been used since it was published and/or how has this field developed since this date. We are looking for a holistic review, employing a good number of references in addition to your key article. You must include both *international and local literature* in the review context. See the marking schedule towards the end of this handout - marks are based on both your written handout and in-class presentation.

# Format

This task comprises the following delivery components:

1. In class you will be given **eight minutes up the front to present and discuss your review**, including issues such as: What was significant and interesting in the article?; What are pertinent lessons we can take from it for the assessment?, Is there anything we can learn from the methods used?; What research gaps remain/ were filled?
2. After your main talk minutes, you will have up to **four extra minutes to answer class and staff questions**.
3. To complement your talk, you must prepare **a polished and informative handout** (i.e. not a copy of your presentation slides) of up to four A4 pages. In your handout, remember to comment on the context of the paper in terms of how it has been used, and what literature it arose from and has contributed to (i.e. you will need to research more than just the one article for this assessment), and to include a list of references.

If you would like any particular presentation facilities, please check they are available in the room that has been booked for the seminar, or double check with the lecturer (we can supply things like whiteboard pens if requested in advance). Make sure to practice your presentation so that it fits into the allotted time – you will likely be asked to stop if you go significantly over time.

Some ideas on how to review literature are included below – note that these pointers can be useful for individual article reviews like our task here but the tips are written to inform those writing literature reviews for research project and theses (i.e. review of multiple pieces of literature) so will be of use for your other 400 and Masters level assessments.

# What is a literature review?

A literature review is an account of what has been published on a topic by researchers. The purpose is to convey to your audience what knowledge and ideas have been established on a topic, and what are their strengths and weaknesses. As a communication piece, the literature review must be defined by a guiding concept (e.g. your overall GEOG409 research objective, problem or issue). It is not just a descriptive list, or a summary but is a much more *evaluative* exercise.

Besides enlarging/ deepening your knowledge about a topic, writing a literature review lets you demonstrate skills in:

1. **information seeking**: the ability to scan the literature efficiently, using manual or computerised methods, to identify a set of useful articles and books, and
2. **critical appraisal**: the ability to apply principles of analysis to identify unbiased and valid studies.

**The first of these skills will be important for selecting your article and commenting on its context within a body of related literature; while the second of these skills will be used in your evaluation of the article.**

A literature review must:

1. be organised around an identified topic or research question,
2. synthesise results into a summary of what is and is not known,
3. identify areas of controversy in the literature , and
4. formulate questions that need further research. Note that if your article is a few years old, in this part you will also be able to comment on progress/ advances since.

Development of the literature review requires four stages.

1. Problem formulation: which topic or field is being examined and what are its main issues?
2. Literature search: finding materials relevant to the subject being explored.
3. Data evaluation: determining which literature makes a significant contribution to the understanding of the topic.
4. Analysis and interpretation: discussing the findings and conclusions of pertinent literature.

## In conducting your review, ask yourself questions like these:

* What is the **specific problem or research question** that my review helps to define?
* What **type** of literature review am I conducting? Am I looking at issues of theory? methodology? policy? quantitative research (e.g. on the effectiveness of a new method)?
* What is the **scope** of my review? What types of publications am I using (e.g., journals, books, government documents)?
* How good was my **information seeking**? Has my search been wide enough to ensure I've found all relevant material? Has it been narrow enough to exclude irrelevant material? Is the number of sources used appropriate?
* Have I **critically analysed** the literature I use? Instead of just listing and summarizing items, do I assess them, discussing strengths, weaknesses and significance?
* Have I cited and discussed studies **contrary** to my perspective?
* Will the audience find my literature review **relevant, appropriate, and useful**?

## Ask yourself questions like these about an individual article:

* Is there a clearly defined problem/issue? Is its significance (scope, severity, relevance) established? Is it related to my GEOG409 topic?
* Could the problem have been approached more effectively from another perspective?
* What is the relationship between the theoretical and research perspectives?
* In a research study, how good are the study design, data and conclusions?
* In what ways does this article contribute to our understanding of the problem under study, and in what ways is it useful? What are the strengths and limitations?
* Who has used this article and what advances have been made since it was published?

Finally, a literature review involves evaluation, analysis and argument, not just description or summarising. It's usually a bad sign to see/hear every paragraph or subtopic starting with the name of a researcher. Instead, organise the literature review into sections that present themes or identify trends, including relevant theory. You are not trying to list all the material published, but to synthesise and evaluate it according to the guiding concept of your thesis or research question. This is not an annotated bibliography exercise. State the scope of your coverage and formulate the question, problem, or concept your chosen material illuminates. You can group items into sections - this helps you indicate comparisons – you can even save words using summary tables.

### Marking schedule for individual literature review

Presenter’s name:

Article reviewed:

Was the in-class presentation completed within the allocated time? YES/NO:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Excellent,  optimal | Ok, getting there | Partly there or inadequate |
| **Article introduction:**  Is there sufficient context info, including the research ‘gap’ that the article fits into? Has the article significance been identified (including following its use in real world application and/or contribution to the research field and relevance to our GEOG409 topic this year)? |  |  |  |
| **Study framework:**  Are the article aims and objectives and/or research questions clearly stated? Is the article approach or theory and methodology clearly explained and critiqued for appropriateness? |  |  |  |
| **Communication outcomes:**  Via the presentation and handout, has an increased level of understanding of the topic been imparted to the class? What research has built on the work you reviewed/ what has been written or done since? |  |  |  |
| **Presentation quality:**  Is the talk and handout well organised and clearly spoken, presented/ written? Was it interesting and engaging, leaving the audience with an interest in the topic? |  |  |  |
| **Technical details:**  Are figures, tables and quotes presented correctly and explained? Are in-text references correctly used and cited? Is the reference list complete and consistently presented? |  |  |  |

Overall grade and constructive feedback:

# Group research proposal

As a group you need to prepare and hand-in an eight page proposal for your research project on an erosion and/or flooding phenomenon affecting Christchurch (i.e. one joint collaborative proposal per group). Amongst other things, your proposal must include information concerning

1. the scope of your project, including your selected phenomenon;
2. a brief description of physical (and other, if you choose) aspects of this topic;
3. the specific sub-topic(s) you aim to research; and
4. your research methodology (including individual methods, expected data, and analyses, health and safety considerations for any fieldwork, indication of the different roles and responsibilities of group members).

See below and overleaf for proposal content guidelines and marking details. Please do make sure to follow the marking criteria in preparing your proposal.

The purpose of a research *proposal* is twofold:

1. to facilitate you to think about your research topic and to make a detailed plan of research project sub-tasks and group member responsibilities, and
2. to enable staff to evaluate the suitability of the proposed research, in terms of academic merit, scope and feasibility (e.g. Is it too ambitious for a 1 semester 400 level project? Is it 400 level ‘research level’ or below expectations – say the level of a consultancy report? Are your plans ethical and safe?).

We also read your proposal to assess the resource and safety implications of your proposed research. You must *not* develop your proposal in isolation – **please consult with the course lecturers**, *and* any relevant geography technical staff. The following information provides a guide to the possible contents of your proposal.

Your proposal should:

* be clear and concise,
* be written in such a way as to enable staff to assess the suitability and scope of your proposed research, as per the aims of the proposal outlined above, and
* be no more than 8 pages long (including everything).

Include all of the essential components listed below (note that you may like to break your proposal down into different headings to cover these components):

1. Provide a clear, concise and informative title. This might not necessarily be the title of your final poster or presentation, as that can evolve with your research.
2. Provide an introduction to the research topic and context for your proposed project. This should be well referenced, demonstrating engagement with relevant theory and literature.
3. Summarise *what* you want to do and *why* it is important. To do this you need to clearly state some research question(s). It is important that the research aims at an appropriate intellectual level for 400-level research (e.g. a robust academic exercise, but not a PhD) and that the questions are realistic in terms of the time available. If you have multiple research questions, make sure that they are coherent and interrelated.
4. Outline the overall methodology (theory of methods or approach) and the particular methods (individual techniques) that you propose to use to study your research question(s). This can be done by justifying the selection of your methodology with respect to the literature, and stating why you think the chosen methods will be appropriate to answer the research questions.
5. Specify the roles of each group member in the project. There may be overlap in roles, but you still need a rough initial plan and responsibilities. There can of course be changes and evolution in this plan, but at least you start with clear roles and some tasks designated to each person.
6. Sources of data and their availability should be specified.
7. Provide a brief regional context for the proposed research and/or describe the field area. Provide a map of the study area where appropriate.
8. A properly formatted list of references that you have cited in your proposal (use APA guidelines on reference formatting).
9. **A realistic, working timetable**: this should indicate which research activities (e.g. literature review, field/ lab work, modelling, data analysis, poster and presentation work). Identify research milestones and dates you aim to complete them. We realise you have other papers at the same time as you are working towards GEOG409 deadlines. Write your poster and final group presentation sections as you go (i.e. write up each method as you perform it). Although the timing of certain elements may change as your research evolves, your initial timetable will form an invaluable tool for you to use in assessing your rate of progress.

The deadline for receipt of proposals is indicated in Table 1. You may receive feedback that parts of your plan need to be improved or change, so do not consider this a one-off research planning step – your work will evolve, as all good research does.

When you have written a draft of your proposal, use the checklist below to help ensure that your proposal is complete. If you cannot answer a definite ‘yes’ to each of these questions, or are somewhat uncertain, you need to go back and rethink the appropriate part of your proposal. Use this checklist for your own purposes - there is no need to hand it in with your proposal.

* Did you consult with staff when developing and polishing your proposal? Yes/No
* Does your proposal have a concise title? Yes/No
* Is your proposal properly formatted? Yes/No
* Does it specify a clear question, hypothesis or focus for your research? Yes/No
* Is the *research problem* clearly outlined and developed? Yes/No
* Has this problem been related to pertinent bodies of literature, both local and international? Yes/No
* Have you outlined your methodology and the roles and tasks for each group member? Yes/No
* Does your proposal identify safety hazards that might occur during your research, as well as indicate how you will avoid or mitigate them? Yes/No
* Have you included a realistic timetable, with well-spaced time for each task designated to each group member? Yes/No
* Will readers of your proposal be able to tell what you want to do, why you want to do it, how you intend to do it and whether or not it is attainable? Yes/No
* Is your proposal fully referenced? Yes/No

### Marking schedule for group research proposal

Group:

Proposal title:

Was the proposal handed in on time? YES/NO

|  |  |  |  |
| --- | --- | --- | --- |
|  | Excellent,  optimal | Ok, getting there | Partly there or inadequate |
| Is there sufficient context info, including some literature critique and identification of the research ‘gap’?  Are the research aims and objectives and/or research questions clearly stated? |  |  |  |
| Is the study placed within a relevant methodological framework (i.e. theory)? Are the proposed methods consistent with the chosen methodology? |  |  |  |
| Is the proposed research manageable within the time and resource constraints of a GEOG409 project? Is a detailed and realistic timetable set out? Are individual people’s responsibilities outlined? Have risks and hazards been adequately considered? |  |  |  |
| Is the proposal well organised and clearly written? Are figures, tables and quotes presented correctly, and explained in the text? |  |  |  |
| Were appropriate staff consulted in proposal development? |  |  |  |
| Have appropriate sources been identified and well used?  Are in-text references correctly used and cited and is the reference list complete and consistent? |  |  |  |

Overall grade and constructive feedback:

**Below, for your information, is a *draft* example of the peer marking system we will be using for both the in-class literature review presentations (with handouts) and for the group final project presentations.**

GEOG409 Literature review presentations: Peer evaluation

Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions and background information:

Your evaluation (without the cover sheet stating your name) will be supplied to presenters with their completed staff marking schedules and feedback.

* When evaluating each talk in the assessment table, please circle the most appropriate answer.
* Please leave a blank table when it comes to your own talk – this will keep the tables in the same order for all talks and evaluators.
* Please hand in your completed evaluation form to staff at the end of each session.

|  |  |  |  |
| --- | --- | --- | --- |
| 1. **Speaker name:** |  | | |
| **Topic** |  | | |
| **Effectiveness**  *This talk was* | very clear/ held my attention | mostly clear/ held my attention | was a bit ineffective/ did not really hold my attention |
| **Balance**  *The focus was on* | a simple overview of general ideas | important insights or analyses, supported by relevant evidence | details somewhat at the expense of key ideas |
| **Impact**  *This talk* | bored me a bit | showed me a few interesting things amongst others not so interesting | opened my mind to some interesting ideas |
| This talk’s **grade** should be: | in the A range  (demonstrated research/ professional readiness) | in the B range  (effective at 400-level) | in the C or lower ranges (not quite at 400-level yet) |

# Group final project presentation

For this task you are to work as a group to prepare and deliver a 20 min presentation on your research project, with up to 10 min question time afterwards (maximum total time 30 min). Please use MS PowerPoint to prepare this presentation. One computer will be used in the seminar so you will need to bring your presentation on a memory stick to upload and check before the seminar starts. Time constraints mean we cannot switch computers for each group. Individual group members all need to contribute fairly to the presentation work at some stage, being responsible for preparing a well-integrated aspect of the talk, for example. Not everyone is required to speak for the same length of time on the day though – your contributions might follow your other strengths. Your presentations will be marked by course lecturers, with peer feedback also provided and taken into consideration.

# Presentation tips

# See Table 3.1 for some basic presentation tips. Please remember to cite key references (e.g. Smith 2017) on your slides so we know what your work has arisen out of, and to what it contributes. Literature is important in talks!

# Don’t be afraid to ask someone to repeat or clarify a question they pose you at the end of your talk, and take your time to think of an answer – you are in the presentation driving seat. Maybe as a group you can think beforehand about who is best to answer what kinds of questions – and then vary this as appropriate on the day.

# It is essential to practice as a group before the day – make sure your talk flows between different slides, ideas and presenters, and that you can talk to time (not too short and information poor, not too long to risk being stopped and missing your chance to give a good ending).

Table 3.1 Tips for presentation slides and delivery

|  |
| --- |
| Less is more on slides - do not clutter them: use few words, 18+ size font and large, clear pictures. Try not to have too many slides – one per two to three minutes is usually plenty unless you are just showing a photograph. Keep everything short and well-focussed. |
| The intro is crucial so take it slow and make it clear. It is a good idea to give a brief overview slide of what your talk is about as part of this. Think about the few key messages you’d like the audience to remember from your talk and make these really clear. |
| Be accessible and engaging. Ask questions. Avoid monotones, use emphasisand p-a-u-s-e-s. Repeat very important points. Avoid excessive use of um, ok… or vary your space filling words if you must employ them. Pauses are more effective than ums. |
| Rehearse your timing and delivery (volume, cadence, dynamic range of voice, mannerisms, etc). |
| Use figures for interest and illustration. Explain each when you bring them up, including map and graph scales, axes and keys. The audience is usually too busy listening to you to interpret this on their own. Make everything on every slide legible to the audience – no teeny tiny graph axis labels please! |
| Don’t speak too fast or go over the top with technology or visual business such as complex colour schemes and hyper-fancy animations. Don’t apologise if you muddle your words a bit – just continue confidently, correcting yourself if necessary. Bring your own water bottle to the front when you talk as you may need it. |

### Marking schedule for group final project presentation

GEOG409 Group:

Presentation title:

Was the in-class presentation completed within the allocated time? YES/NO: \_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
|  | Excellent,  optimal | Ok, getting there | Partly there or inadequate |
| **Research project introduction:**  Has the research topic been stated with sufficient context, including the research ‘gap’ that the project fits into?  Was the significance of the research topic identified? |  |  |  |
| **Approach:**  Are project aims, objectives or research questions clearly outlined?  Is the project methodology and methods clearly explained and related to these objectives/ questions? |  |  |  |
| **Communication outcomes:**  Has an increased level of understanding of the topic been imparted to the audience?  Was the essence of the topic distilled, and important distinguished from trivial (no waffle)?  Did the presentation indicate the limitations of current knowledge?  Did the presentation cater to a GEOG409 audience (relatively specialised)? |  |  |  |
| **Presentation quality:**  Was the talk interesting and engaging, leaving the audience with an interest in the topic?  Was it coordinated between sections & speakers, with a logical flow?  Was the delivery audible, coherent, clear, legible, effective, uncluttered? |  |  |  |
| **Technical details:**  Are figures, tables and quotes presented correctly, and explained?  Are references to literature correctly cited, with a complete reference list at the end? |  |  |  |

Overall grade and constructive feedback:

### End-of-project peer assessment form

*All the data included on this form will be treated with the upmost confidentiality. Results will be used to (a) improve the course in subsequent years, and (b) to moderate final grades.*

|  |  |
| --- | --- |
| Your name |  |
| Below fill in the names of all your group members in first-name alphabetical order. | |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| Group research topic |  |
| Was there any significant conflict in your group? | Yes / No (delete one) |
| If yes, please explain briefly |  |
| What were *your* contributions to the group research? |  |
| Would your group have been able to succeed without *your* help? Explain. |  |
| Did you enjoy this assignment? | *Please answer yes/ no and explain what you did/not like about it.* |
| What did you learn from this research exercise/process? |  |
| What would you advise the course lecturers to do differently next year to improve the assessment? |  |

*Cross out your own number below, then bold or circle appropriate scores for other group members in each question. Note that the scale is meant to be indicative as opposed to perfect for each question. The scale is as follows:*

(1) no, not at all (2) some (3) yes, good (4) excellent

1. Did this person attend the meetings and/or complete the tasks that s/he was supposed to?

[ 1 ] 1 2 3 4

[2 ] 1 2 3 4

[3 ] 1 2 3 4

[4 ] 1 2 3 4

2. Was this person actively involved in the group, did s/he communicate well/ collaboratively?

[ 1 ] 1 2 3 4

[2 ] 1 2 3 4

[3 ] 1 2 3 4

[4 ] 1 2 3 4

3. Did this person’s part of the work form a significant contribution to the group research?

[ 1 ] 1 2 3 4

[2 ] 1 2 3 4

[3 ] 1 2 3 4

[4 ] 1 2 3 4

4. Would you feel positive about working in a group with this person again?

[ 1 ] 1 2 3 4

[2 ] 1 2 3 4

[3 ] 1 2 3 4

[4 ] 1 2 3 4

# Individual poster

This task involves each student making an informative and attractive scientific poster explaining your research and its outcomes. Your poster is a piece of individual work, but it must focus on the research conducted by your group (in part or as a whole – note that you poster can focus on your contribution to the group work only or on a larger part of the collective group work). Posters should be A0 size, either portrait or landscape format. Please submit posters both online via Learn (as a PDF file) and in hardcopy (**printed out in colour as an A3 mini version of your A0 poster**) though the Geography assignment submission box on level 5.

There are a million ways to make a good scientific research poster. This hand-out has some tips, plus overleaf is the marking schedule that we use to assess your poster.

* We highly recommend using MS PowerPoint to format your poster - in this programme you must size your poster before you input any content. But before you get into layout design, please first work on its content. Leave layout until you have a basic content script and figure plan.
* Start making the poster with a plan. Write its contents list just like you would for an essay, including topic subsections for written text. List figures/ tables needed to illustrate your ideas. Include a title and key references.
* Next write your text in a simple file (e.g. Word) and divide it into chunks for pasting onto the poster. Keep text short and focussed – 500 to 1200 words total is ideal. Communicate key insights – don’t write an essay but rather keep it short – more like an extended abstract.
* Make illustrations (plots, maps, photos) and tables in appropriate software (MS Excel, ArcGIS, Matlab etc). All axis and caption fonts must be legible when printed in A3. Use extended captions to communicate the key ideas of each figure/ table – more so than you would do if you had lots of essay text to discuss the illustrations elsewhere. But make sure to refer to all figures and tables in the poster paragraph text too, so the reader knows when to refer to them.
* **Evaluate** how much you have once you have a **first content draft**. Less is more – you are looking to communicate key ideas, and to back them up with figure/ table evidence. If you are carried away with lots of stuff, then you have lost sight of, or do not realise what are the key research ideas/ findings.
* Less is more (did I say that already?!) – avoid cramming, clutter, and tiny fonts because your audience will typically have older eyes than yours. Leave space between the content to have visual impact.
* Consider using a free poster template. Google something like ‘scientific research poster template’ for a range of potential templates (stick to free ones).
* Keep the software side of things simple. Be very wary of too much focus on technical poster creating tasks detracting from content work. If it looks amazing but communicates nothing, then it has failed as a good poster. Similarly, if the content is great, but hard to understand, then it is substandard overall (we are not asking for visual art though). We want posters that have impact and flow, with quality content and communication of messages to the audience.

Need a free peer review and feedback? Ask your classmates, or upload your poster to <https://www.flickr.com/groups/pimpmyposter/>, a great site where you can not only see poster examples but also get feedback on how to improve your draft poster before marking. <http://www.makesigns.com/tutorials/> has short clips that take you through the process of making a PowerPoint poster, and offers templates – keep in mind they are working in USA units like inches so need converting to NZ units to print locally. Lastly, there are some excellent short guides online, like: http://guides.nyu.edu/posters

### Marking schedule for individual poster

Student name:

Was the poster submitted on time? YES/NO

|  |  |  |  |
| --- | --- | --- | --- |
|  | Excellent,  optimal | Ok, getting there | Partly there or inadequate |
| **Poster introduction**   * Relationship to previous work/ existing literature shown and relevant local and international references cited * Research question(s) stated clearly, some originality shown |  |  |  |
| **Methodology**   * Approach outlined & appropriate to research question(s) * Data collection procedures provided * Analysis methods described & appropriate * Limitations or scope limits mentioned |  |  |  |
| **Results and discussion**   * Quality & appropriateness of tables/illustrations * Data *interpreted* for reader? * Key conclusions drawn and explained * Results related to other studies & scientific importance outlined, future research suggested |  |  |  |
| **Presentation**   * Poster well organized, easy to follow * Fonts large enough (e.g. 16 pt font size or larger?) * Text short, to-the-point, no overly lengthy paragraphs * Employs illustrations (tables, maps, graphs, data, photos, drawings, etc.) usefully * Everything easy to read, no data or text overload * Technical level appropriate for scientific audience * Poster can be easily understood without additional explanation |  |  |  |
| **References & acknowledgements**   * References correct, sufficient, of quality sources, local and international? * Any relevant peer assistance aspects acknowledged? |  |  |  |

Overall grade and feedback comments: