

# Tohu Paerunga Pūtaiao Ōnuku

## Postgraduate Earth Sciences

Combine geology and physical geography to develop and explore our natural resources and manage natural hazard risk.

Postgraduate Earth Sciences encompasses the study of the earth and earth processes that can also fall into the disciplines of geology, geophysics and physical geography. Areas of research interests open to exploration include: climate and society, coasts and rivers, environmental change, hazards and disasters, natural resources, volcanology, petrology and geochemistry.

Courses available in this subject include:

- Faults and Fluids
- Geohazards
- Environmental Geochemistry
- Volcanoes
- Planetary Science
- Exploring Environmental Change
- Integrated Sedimentology and Tectonics
- Engineering Geology
- Hydrogeology

### Choosing your supervisor

Supervisors can usually only take a small number of students, so make sure you talk to them sooner rather than later.

Choose an area you feel passionate about. Undertaking research involves successes as well as challenges, so choosing a topic you are genuinely interested in will help you overcome challenges and get through the tough times. Ensure you're compatible with your supervisor. Ask questions, seek advice and share your ideas with academic staff to find out their research interests, and whether you would be a good fit with their current projects.

### Scholarships

You can apply for a range of scholarships when you apply for postgraduate study in Science.

[auckland.ac.nz/science-scholarships](http://auckland.ac.nz/science-scholarships)



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# Career opportunities

A postgraduate degree in Earth Sciences provides a strong foundation for developing a successful and rewarding career.

The employment pathways for Earth Sciences graduates are varied. Earth scientists may be responsible for monitoring hazards, such as volcanic activity, earthquakes, landslip and subsidence, which affect us and the communities we live in. Our graduates find work locally or internationally, working for geological and exploration companies, engineering companies, environmental consultancies, central government and local authorities.

Our graduates have been employed in the following jobs:

- Geoscientist, Energy Development Corporation
- Engineering geologist, WSP Opus
- Development engineer, Auckland Council
- Geothermal scientist, Jacobs
- Geotechnical instrumentation and monitoring technician, SIXENSE Soldata
- Engineering geologist, Lander Geotechnical Consultants Limited
- Environmental consultant, Tonkin + Taylor
- Hire and products advisor, Geotechnics

# This subject is available in:

Bachelor of Science (Honours)

Postgraduate Diploma in Science

Master of Science

You may also be interested in our programmes in Environmental Engineering, Environmental Science, Geography and Geophysics.

## Find out more

about how your degree will be structured and what courses you need to take at [auckland.ac.nz/science/pg-earth-sci](http://auckland.ac.nz/science/pg-earth-sci)

*“I would love to be involved in the search for past life on Mars someday. The research I’m doing has applications in that field, as well as adding to our understanding of early life on Earth. I’m fascinated with how life got started on Earth (and possibly elsewhere) and how the record of that life may be preserved in the rocks.”*

## Barb Lyon

Master of Science in Earth Science



Read Barb’s full story at: [science.auckland.ac.nz/barb-lyon](http://science.auckland.ac.nz/barb-lyon)



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# Tohu Paerunga Pūhanga Mātai Aronuku

## Postgraduate Engineering Geology

Learn the essential skills to mitigate the impact of natural processes and man-made structures in order to prevent and control hazards.

By focusing on the development of accurate and reliable geological ground models, you will be well equipped to work within New Zealand's complex environment and contribute to the projected construction boom. This interfaculty programme, between the Faculty of Engineering and the Faculty of Science, is for students who want to pursue an industry-relevant programme.

Courses available in this subject include:

- Advanced Engineering Geology
- Hydrogeology
- Engineering Geological Mapping
- Environmental Management
- Project Management
- Faults and Fluids
- Geohazards
- Environmental Geochemistry
- Integrated Sedimentology and Tectonics

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## Career opportunities

The long-term outlook for employment as a geologist is excellent, with a large range of career opportunities available.

At present the engineering geology industry is one of the largest employers of our graduates.

Demand for qualified engineering geologists continues to grow in New Zealand and internationally due to infrastructure growth, management of geohazards, and resource extraction. An Engineering Geologist's primary goal is to protect life and structures from the effects of nature. So it's an interdisciplinary geoscience career, dealing with the effects of soil, rock and groundwater and bridging between geology, engineering and environmental management.

A postgraduate qualification in Engineering Geology is designed to equip you with the necessary knowledge, skills and competencies to enter the applied geosciences industries.

This qualification will set you on the pathway to

becoming a Chartered Member of Engineering New Zealand – Professional Engineering Geologist.

**Our graduates have been employed in the following jobs:**

- Engineering geologist, Beca
- Engineering geologist, Golder Associates
- Geotechnical engineer, USA Federal Highway Administration
- Senior exploration geologist, Newmont Mining
- Geohazard analyst, GNS Science
- Geoscientist, Geoscience Australia

## This subject is available in:

### Master of Engineering Geology

You may also be interested in our programmes in Earth Science, Geology, Geophysics and Environmental Management.

### Find out more

about how your degree will be structured and what courses you need to take at

[auckland.ac.nz/science/pg-eng-geology](http://auckland.ac.nz/science/pg-eng-geology)

*“My work focuses on identifying where erionite exists in New Zealand. I hope my research will lead to the introduction of regulations surrounding erionite exposure for industries excavating rocks and tunnelling in locations where erionite is or might be found. Working on this project is very rewarding because it feels like I am a part of something much bigger than myself.”*

## Janki Patel

Doctor of Philosophy in Geology



Read Name's full story at:  
[auckland.ac.nz/science/pg-janki-patel](http://auckland.ac.nz/science/pg-janki-patel)



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# Tohu Paerunga Whakahaere Taiao

## Postgraduate Environmental Management

Environmental Management explores the political, ecological, economic, social, cultural and institutional factors underlying environmental problems. This transdisciplinary programme develops the critical thinking skills required to address the complexities of environmental challenges.

This specialisation will give you the opportunity to learn how to encourage social change, and promote the sustainable development of our natural resources to enable society to become better custodians of our environment.

Courses available in this subject include:

- Environmental Management in Practice
- Current Issues in Sustainability
- Collaborative Environmental Management
- Coastal Management
- River Management
- Resource Management
- Social Change for Sustainability
- Social Dimensions of Global Environmental Change
- Ethical Environmental Futures

### Choosing your supervisor

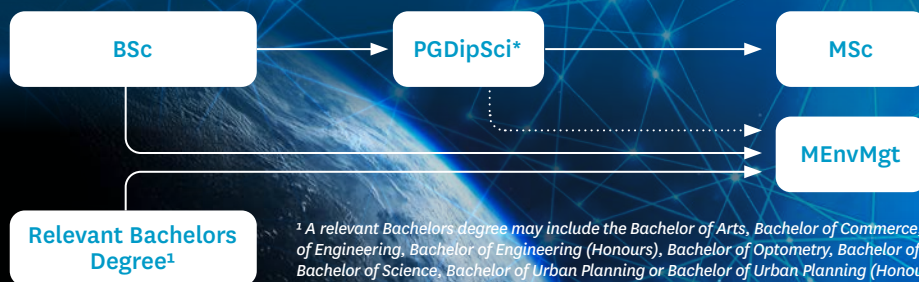
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### Scholarships

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<sup>1</sup> A relevant Bachelors degree may include the Bachelor of Arts, Bachelor of Commerce, Bachelor of Engineering, Bachelor of Engineering (Honours), Bachelor of Optometry, Bachelor of Planning, Bachelor of Science, Bachelor of Urban Planning or Bachelor of Urban Planning (Honours).



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## Career opportunities

Completing the programme means you will be equipped with the knowledge, skills, tools and methods to find suitable approaches to address complex social-environmental problems.

Due to the growing need to better protect our environment and manage our natural resources, there are a variety of sectors directly involved in environmental management such as environmental consultancies, non-governmental organisations, and regulatory authorities.

Our graduates can also be found working in central government, universities, or as secondary school teachers.

**Our graduates have been employed in the following jobs:**

- Consents officer at regional council
- Coordinator of community conservation initiative
- Sustainability consultant for energy sector
- Corporate social responsibility advisor
- Recreational management planner
- Environmental policy advisor for city council
- Carbon emissions offsetter

## This subject is available in:

Postgraduate Diploma in Science

Master of Science

Master of Environmental Management

### Find out more

about how your degree will be structured and what courses you need to take at

[auckland.ac.nz/science/pg-env-management](https://auckland.ac.nz/science/pg-env-management)



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# Tohu Paerunga Ahupūngao Taiao

## Postgraduate Environmental Physics

As a postgraduate Environmental Physics student you'll take a customised mix of advanced courses in Earth Sciences, Mathematics and Physics and focus on applied/solid earth, atmospheric or marine Environmental Physics.

Areas of research open to exploration include climate dynamics and processes, fluid dynamics of the ocean and atmosphere, and subsurface imaging and investigation with a variety of applied environmental physics methods at different scales and settings.

Courses available in this subject include:

- Environmental Physics Fluid Dynamics
- Climate Dynamics
- Turbulent Processes in Climate
- Waves and Potentials
- Integrated Basin Exploration
- Subsurface Characterisation with Environmental Physics Methods

### Choosing your supervisor

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## Career opportunities

Postgraduate study in Environmental Physics prepares you for employment in areas that rely on a physics-based understanding of our environment.

You can expect to find employment researching global processes such as plate tectonics, earthquakes, volcanoes, the oceans, atmosphere and climate.

Environmental Physicists can also become explorers for natural resources, looking for oil, minerals and groundwater, and help to monitor and manage environmental problems including natural hazards or pollution.

Our graduates have been employed in the following jobs:

- Atmospheric scientist
- Energy industry (hydrocarbon, geothermal)
- Geohazard research
- Ground water exploration
- Consultancies including engineering Environmental Physics
- Mineral exploration
- Oceanographer
- Researcher at Crown Institutes such as GNS or NIWA

## This subject is available in:

Bachelor of Science (Honours)

Postgraduate Diploma in Science

Master of Science

You may also be interested in our programmes in Physics, Mathematics, Geography, Environmental Science and Earth Sciences.

### Find out more

about how your degree will be structured and what courses you need to take at

[auckland.ac.nz/science/pg-environmental-physics](https://auckland.ac.nz/science/pg-environmental-physics)

*“Environmental Physics interested me because I was interested in the environmental impact of human activity and how the geology of the surface of Earth tells us a story about its past.”*

## Mahima Seth

Bachelor of Science, majoring in Environmental Physics and Physics.

➔ Read Mahima's full story at:  
[auckland.ac.nz/science/pg-mahima-seth](https://auckland.ac.nz/science/pg-mahima-seth)



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# Tohu Paerunga Pūtaiao Taiao

## Postgraduate Environmental Science

Your study will focus on real-world problems, the biological, chemical and physical processes that underlie them, and ways in which humans interact in these issues. You will analyse and model environmental data, and communicate that information, including the risk and uncertainty involved in it, to promote a more environmentally sustainable future.

Postgraduate study in Environmental Science focuses on a scientific approach to environmental problem solving in natural and human-influenced environments. Areas of research interests open to exploration include coastal processes, applied ecology, ecosystem processes, environmental modelling, environmental contaminants, and the management and restoration of environmental systems.

Courses available in this subject include:

- Assessing Environmental Effects
- Modelling of Environmental Systems
- Environmental Data Analysis
- Air Quality and Atmospheric Processes
- Environmental Contaminants
- Applied Terrestrial and Freshwater Ecology
- Coastal Processes and Management
- Water and Society

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# Career opportunities

Postgraduate study in Environmental Science is an excellent step towards a number of professions and is a strong foundation for further research.

A postgraduate qualification in Environmental Science will equip you with the skills necessary to have a challenging career in a field which explores the interdisciplinary, applied scientific study of natural and human-influenced environments.

Environmental Science graduates are employed in a diverse range of roles in research and development, local and regional government and non-governmental organisations, consultancy, environmental and community organisations, industry and education.

Our graduates have been employed in the following jobs:

- Freshwater Scientist – Cawthron Institute
- Environmental Scientist – Morphum Environmental
- Policy Officer – New Zealand Ministry of Foreign Affairs and Trade
- Environmental Scientist – Watercare Services Limited
- Flooding Scientist – Environment Canterbury
- Postdoctoral Fellow – University of California
- Graduate Environmental Scientist – Tetra Tech Coffey

# This subject is available in:

Postgraduate Diploma in Science

Master of Science (MSc)

Master of Environmental Science

Doctor of Philosophy

You may also be interested in our programmes in Biological Sciences, Earth Sciences, Geography, Geophysics, and Marine Science.

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about how your degree will be structured and what courses you need to take at

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*“I love solving problems and postgraduate degrees provide a fantastic opportunity to do this on a daily basis. You are also investigating phenomenon that don’t have set answers, and as such requires novel ways of thinking to come up with solutions.”*

## Cody Lim

Master of Environmental Science.



Read Cody’s full story at:  
[auckland.ac.nz/science/pg-cody-lim](http://auckland.ac.nz/science/pg-cody-lim)



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# Tohu Paerunga Matawhenua Postgraduate Geography

Geography is a wide-ranging and dynamic discipline concerned with social and environmental change and the issues affecting people in place. If you are keen to understand the world around you and committed to making a difference, then postgraduate study in Geography is a great place to start.

Geography is an exciting and relevant subject that covers a diverse set of fields and a wide variety of advanced and specialised courses. Some of the courses available in this subject include:

- Climate and environmental change
- Cultural landscapes
- Development
- Disaster recovery and management
- Fluvial geomorphology/Earth surface processes
- Food economy
- Gender and inequality
- Housing and urban development
- Policy formation

## Choosing your supervisor

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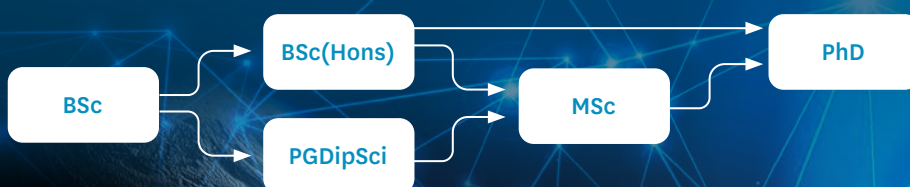
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# Career opportunities

A postgraduate Geography qualification gives you an edge to your career.

Skills learned in research and data collection, analysis, evaluation, planning and problem-solving, alongside knowledge of moral and ethical issues, means our graduates can be found working in a wide range of occupations in an equally wide range of organisations.

You may use your training directly in the workplace, or find the broad education and flexible skills developed in Geography are in high demand in the wider job market. The qualification is well regarded in New Zealand and internationally, and many alumni have gone on to establish high-profile, influential careers.

Our graduates have been employed in the following jobs:

- Business liaison manager, NZ Ministry of Foreign Affairs
- Climate scientist, NIWA
- Director, NZ Aids Foundation
- Geomorphologist, Geo Morphix Ltd.
- GIS analyst, NZ Ministry of Defence
- High school Geography teacher
- New Zealand Ambassador to Argentina
- Principal Planner, Tonkin and Taylor
- NGO researcher/manager

# This subject is available in:

Bachelor of Science (Honours)

Postgraduate Diploma in Science

Master of Science

Master of Arts

Doctor of Philosophy

Our students are enrolled in Arts and Science programmes, as well as multiple interdisciplinary taught and research programmes.

You may also be interested in our programmes in biological sciences, chemistry, earth sciences, environmental management, environmental science, history, psychology and statistics.

## Find out more

about how your degree will be structured and what courses you need to take at

[auckland.ac.nz/science/pg-geography](http://auckland.ac.nz/science/pg-geography)

*“Geography is such a fantastic subject in that it is broad and covers a wide range of courses from climatology to socio-economic change.”*

## Courtney Simpson

BA Geography, BSc (Hons) Geography,  
MSc Environmental Management



Read Courtney's full story at:  
[auckland.ac.nz/science/pg-courtney-simpson](http://auckland.ac.nz/science/pg-courtney-simpson)



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