

# Engineering Geologist / Geomorphologist



*To undertake and lead scientific research and commercial activities within New Zealand and overseas in the field of Engineering Geology and Geomorphology with a focus on numerical modelling of slope instability and landslide processes.*

<b>Reports to:</b>	Engineering Geology Team Leader
<b>Department:</b>	Surface Geosciences
<b>Group:</b>	Science
<b>Tenure:</b>	Permanent
<b>Location:</b>	Avalon
<b>Direct reports:</b>	Nil
<b>Budget:</b>	Nil
<b>Career Path:</b>	Research
<b>Job Family:</b>	Research
<b>Career Step:</b>	Scientist 2 to Senior Scientist 2
<b>Date:</b>	May 2024

## Position priorities and responsibilities

### Scientific Research

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- Assist with existing research projects in the field of Engineering Geology/Geomorphology and its application to landscape and landslide processes, hazards, and their associated risks.
- Design, secure funding for, and lead new research in the field of Engineering Geology/Geomorphology.
- Apply and advance numerical modelling approaches to support research related to hillslope stability, and landslide processes and hazards.

### Commercial

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- Provide professional advice and undertake consulting work for clients as required, completing reports to agreed scope, timeframe, and budget.
- Apply numerical slope stability and landslide modelling approaches to support commercial projects.
- Identify areas of commercial opportunity and help to secure commercial contracts.

### Communication

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- Communicate scientific research through authorship or co-authorship of technical reports or scientific journal articles.

- Make presentations at conferences and seminars.
- May represent GNS Science at workshops and client meetings.
- May act as a scientific adviser to staff or stakeholders.

## Leadership

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- Liaise with the Programme Leader regarding workload and capability.
- Act as a quality/peer reviewer.
- Act as a mentor for less experienced team members.
- Lead research or commercial projects or other GNS activities.

## Projects

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- Assist with operational activities such as management of Engineering Geology/Geomorphology datasets and participation in teams responding to extreme events.
- Undertake projects for your Team Leader as and when required.

## Responsibilities of all staff

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- Comply with all GNS Science policies and procedures.
- Contribute to making GNS Science a healthy and safe place to work by complying with the responsibilities and accountabilities outlined in the Health and Safety Management System Framework.

The responsibilities of this position will change over time to respond to changing needs. The incumbent will need the flexibility to adapt and develop as the company and its environment evolves.

## Key working relationships

### Internal:

- Work with geoscientists and support staff in the Engineering Geology Team, Department of Surface Geosciences, GeoNet, and GNS Science Group.
- Work with the Research Strategy and Partnerships teams to develop commercial and research funding opportunities.

### External:

- Ministry of Business Innovation and Employment (MBIE), Earthquake Commission (EQC), Department of Conservation (DoC), infrastructure owners and operators, geotechnical consultants, regional councils and territorial local authorities, universities.

## Person specification

### Skills, knowledge and attributes

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- Skill in the application of numerical modelling packages for investigating slope stability and landslide processes.
- Knowledge of slope stability concepts, landslide mechanics, and hillslope processes.
- Knowledge of the geotechnical properties of rocks and soils and methods for their engineering geological or geophysical mapping and investigation.
- Excellent written and verbal communication skills, with a track-record of technical report writing and/or publishing in scientific literature.

- Good analytical and problem-solving skills.
- Flexible and adaptable team player.
- Good time management and organisational skills.

## Experience

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### Essential

- At least 5 years working in engineering geological/geomorphological or related research and/or consulting roles.
- Has applied numerical modelling approaches to solve slope stability or landslide-related problems.
- Has made contributions to multi-disciplinary teams to deliver research and/or commercial projects.

### Desirable:

- Has led the design, execution, and dissemination of engineering geological/geomorphological research or consultancy projects.
- Worked with remote sensing data and geospatial datasets to map landslides and related landforms.
- Applied statistical analytical techniques and/or geo-spatial modelling to study slope stability and landslide processes for research or consultancy projects.
- Experienced in engineering geology/geomorphology fieldwork and proficiency with one or more relevant field skills, for example (but not limited to) geotechnical site investigation and mapping.
- Undertaken laboratory experiments to measure the strength properties of rocks and soils to examine the failure mechanisms of landslides and rock slopes.
- Have some experience of working with Iwi/Maori groups and organisations to build relationships with the aim of facilitating Maori development.

## Qualifications

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### Essential:

- PhD in Engineering Geology or related discipline.

## Other requirements

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### Desirable:

- Advanced IT skills in Windows and computer coding or programming.
- Full drivers licence.
- First aid certificate.

## Performance Dimensions

At a high level, GNS Science recognises six **Performance Dimensions**: three relate to technical capability, one relates to leadership (if applicable) and two relate to the *way we work*. Below are the general expectations that are the minimum standards expected of all staff. There are also expectations that specifically relate to the career step associated with the role; you can find these on GNS Online.

## Technical capabilities

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### Scope, complexity and innovation

- Enduring commitment to maintaining and developing skills and knowledge in area of expertise.

- Both the ability and desire to apply appropriate rigour, principles and practices to deliver quality work in a cost-effective manner.
- Acts in a manner that conveys high personal and professional standards.
- Open to coaching and feedback – incorporates suggestions to find better ways of doing things (to improve own and GNS Science performance).

#### **Contribution to GNS Science / profession**

- Establishes and maintains effective and collaborative working relationships – with colleagues and external individuals and groups.
- Both the ability and commitment to work in a culturally responsive and inclusive manner; respecting and valuing the diverse perspectives of individuals and groups.
- Takes an interest in early career colleagues, graduates and students – provides coaching and/or mentoring as appropriate. Supports initiatives to promote science careers.
- Prevents harm to self and others by carrying out duties safely and responsibly.

#### **Delivery of work**

- The ability and commitment to deliver pieces of work and projects on time to required quality, cost and benefit parameters.
- The application of appropriate project management rigour, principles and practices to delivering quality projects in a cost-effective manner

### **Behavioural expectations**

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#### **Manaakitanga – we do the right thing**

Champions a positive working culture. Works and interacts with colleagues, external partners, stakeholders and customers in a way that is consistent with our values:

- We are **CONNECTED** in our purpose; with each other, with partners and stakeholders and with our communities.
- We are **INSPIRED** by our work to explore, challenge, innovate and aim higher.
- We are **EMPOWERED** to be our best – valued for our differences, encouraged to contribute and enabled to grow and develop.

#### **Bicultural commitment**

- As a Crown Research Institute, GNS Science is committed to partnering with iwi/hapū and Māori communities and agencies to achieve their science aspirations.
- We do this in a way that is culturally appropriate (**tikanga**) and honours Māori and non-Māori worldviews (**te ao**).

These expectations are intended to support and guide the development of individual staff.