

Paleoclimate and Ice Core Scientist



The purpose of the position is to conduct scientific research on Antarctic ice and sediment cores to understand the continent's response to and influence on climate change and other global processes. The successful candidate will be expected to travel to Antarctica to support paleoclimate studies and drilling activities on regular occasions.

Reports to:	Environmental Processes and Modelling Team Leader
Department:	Surface Geosciences
Group:	Science
Tenure:	Permanent
Location:	Lower Hutt
Direct reports:	None
Budget:	None
Career Path:	Research
Job Family:	Research
Career Step:	Scientist 2 / Senior Scientist 1
Date:	September 2023

Position priorities and responsibilities

Scientific Research

- Undertake paleoclimate research based on Antarctic ice cores currently in the collection or acquired as part of ongoing research. Take a lead role in site selection, planning and undertaking Antarctic fieldwork.
- Develop ice core research plans in consultation with senior staff, and contribute to the planning, execution, and reporting of paleoclimate research projects.
- Assist in the coordination of workflows within the Ice Core Facility (ICF) and support scientists and supervise technicians and students undertaking research at the ICF.
- Contribute to the development of new ICF analytical capabilities and core processing techniques and lead or assist in meeting health, safety and biosecurity obligations relating to the ICF.
- Engage with policymakers and other stakeholders to relate science outcomes to impacts.
- Participate in discussions and planning of research directions within GNS Science and, as appropriate, develop proposals for new research funding.
- When appropriate, work with Iwi groups and organisations to build relationships with the aim of facilitating Māori development in climate science.
- Publish research results in peer-reviewed journals, and present findings at research conferences and to stakeholders.

Commercial

- Work with other GNS Science geophysicists, geologists and geochemists to assist in the Antarctic and Climate related research including potential commercial projects.

Communication

- Communicate scientific research through authorship and co-authorship of scientific publications, papers, reports, seminars and conference presentations.
- Raise awareness of paleoclimate research and its impacts through outreach and stakeholder engagement.
- Communicating research through presentations and workshops with policy and iwi stakeholders

Projects

- Contribute to the development of major Antarctic drilling projects planned for the future.
- Undertake projects in consultation with team leader, ICF lead scientist and lab manager.
- Identify opportunities for interdisciplinary studies with groups such as paleontology, coastal studies teams, earth system modellers, and data scientists.

Responsibilities of all staff

- 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:

- GNS Science researchers.
- ICF lead scientist, lab manager, lab technicians and student workers.
- Theme Leaders (Environment and Climate / Land and Marine Geoscience).
- Scientists and students in the Antarctic Science Platform, Future Coasts, and Global Change through Time programmes at GNS.
- Stakeholder Relations Group.

External:

- Key stakeholders such as Antarctic Research Centre at VUW, Antarctica New Zealand, MPI, MfE, MFAT.
- CRI's and other science and research organisations.
- International collaborators.
- Iwi.

Person specification

Skills, knowledge and attributes

- Experience in paleoclimate studies based on ice cores and sedimentary records.

Experience

Essential:

- Background in paleoclimate studies, ice cores, and earth systems.
- Proven publication/reporting history.
- Proven project management experience.
- Willing to undertake regular field deployment to Antarctica to support ice core projects.
- Outstanding communication skills
- Exemplary interpersonal skills

Desirable:

- Previous experience working in a research organisation/group.
- Working with multidisciplinary teams.
- Supervising technicians or other staff.
- Ability to work well in a team and to co-operate with colleagues in helping fulfil project objectives.
- Understanding of Māori relationship and development issues and an interest in Te Reo Māori.

Qualifications

Essential:

- PhD in a relevant field (Earth Sciences, Geology, Glaciology, Chemistry).
- Practical knowledge and experience of ice core laboratory equipment and procedures and relevant analytical techniques.
- Practical knowledge and experience of paleoenvironmental analysis of ice cores and sediments.
- Practical knowledge and experience of analysis and quality control of data.

Desirable:

- Practical knowledge and experience with ice core field work.
- Practical knowledge and experience with atmospheric modelling platforms.
- Practical knowledge and experience with data analysis software, including Python, MATLAB, R, and Chromeleon.

Other requirements

Essential:

- Clean New Zealand drivers licence

Desirable:

- First aid certificate
- Biosecurity accreditation with MPI.
- Responsible Care - Competent Chemical Handler certification.

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

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

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.