

Volcanic Fluid Geochemist

Reports to:	Volcanology Team Leader	Position Status:	Permanent
Business Unit:	GNS	Location:	Wairakei or Gracefield
Department:	Earth Structure & Processes	Date:	October 2025
Direct Reports:	Nil	Budget & Delegated Authority:	Nil
Group:	Science Operations – Geological Systems	Career Step:	Research
Job Family:	Science & Research	Career Path:	Senior Scientist 1-2 / Band 8-9

Purpose

To undertake scientific research in the field of volcanic fluid geochemistry for fundamental and applied research and provide geochemical expertise to New Zealand volcano monitoring through the GeoNet programme at Earth Sciences New Zealand.

Position Priorities and Responsibilities

Scientific Research and Volcano Monitoring

- **Lead and advance scientific research** in volcanic fluid geochemistry, including the development and application of new analytical or modelling techniques to improve understanding of magmatic and hydrothermal systems.
- **Provide scientific leadership to GeoNet analytical and field volcano monitoring operations**, including sample/data acquisition, data analysis and management, and curation of volcanic fluid datasets for public access via the GeoNet data portal.
- **Provide expert input to GeoNet's volcano monitoring group**, including interpretation of fluid geochemical data, participation in volcanic event responses, and support for Pacific observatory partners.
- **Communicate scientific findings** through peer-reviewed publications, technical reports, and presentations to stakeholders, contributing to Earth Sciences New Zealand's visibility and impact.
- **Collaborate nationally and internationally** to shape research directions, contribute to proposal development, and secure funding in volcanology and geothermal science.

Responsibilities of all Employees

- Comply with all relevant Business Unit policies, procedures and frameworks, and act in line with the relevant Business Unit values.
- Contribute to our healthy and safe workplace by following Health, Safety and Wellbeing (HSW) expectations outlined in and integrated into our operational practices and HSW Frameworks, including undertaking HSW training and participating in health monitoring programmes relevant to

your work.

- Work effectively as a team member by fostering good relationships and supporting others by providing coverage of other functions as required and ensuring workloads are evenly spread.
- Have the flexibility to adapt and develop as the company and its environment evolves.

Key Working Relationships

Internal	External
• GeoNet Volcano Monitoring Group • GeoNet programme • Science and Commercial Operations Group • Earth Structures and Processes Department • Volcanology team • National Geohazards Monitoring Centre • Other GNS Science teams	• Ministry of Business Innovation and Employment (MBIE) • Toka Tū Ake Natural Hazards Commission (NHC) • Ministry of Foreign Affairs and Trade (MFAT) • National Emergency Management Agency (NEMA) • Regional Civil Defence Emergency Management (CDEM) groups • Department of Conservation (DOC) • National/International Universities

Person Specification

Qualifications and Experience

Essential

- PhD level academic background in geochemistry.
- Strong background in volcanic fluids geochemistry.
- Experience in analytical methods and/or geochemical modelling.
- Have and maintain suitable level of fitness for field work.
- Post-doctoral or similar experience.
- Current full driver licence.

Desirable

- Working experience in operational volcano monitoring environment.

Skills, Knowledge and Attributes

Essential

- A willingness to work in a multidisciplinary environment, especially for volcano monitoring purposes.
- Maintain cutting edge capabilities in the analysis/interpretation of water and gas emissions from active volcanoes.
- Significant skills in the application of thermodynamic and kinetic principles to the interpretation of geochemical monitoring data.
- Ability to develop and refine conceptual models of magmatic and magmatic-hydrothermal

systems in New Zealand and other volcanic regions and understand associated hazards.

- Excellent communication and interpersonal skills.

Desirable

- Sound background in mathematics and computational skills.
- A willingness to work with Iwi/Māori groups and organisations to build relationships with the aim of facilitating Māori development.
- A willingness to work across disciplines such as volcanology and geothermal research.