Carbon Cycle Scientist

This position is responsible for quantifying carbon emissions in New Zealand, using fossil fuel and biogenic flux modelling combined with atmospheric observations and modelling. Its main focus is to contribute to the CarbonWatch-NZ programme.

**Reports to:** Environmental Chemistry Team Leader  
**Department:** Surface Geosciences  
**Group:** Science  
**Tenure:** Fixed Term two years  
**Location:** Gracefield  
**Direct reports:** Nil  
**Budget:** Nil  
**Date:** August 2020

Position priorities and responsibilities

**Scientific Research**

- Develop and evaluate bottom-up flux models and data products for urban CO₂ emissions, for urban biogenic and/or fossil fuel emission fluxes. May include mesoscale atmospheric transport modelling.
- Evaluate the emission models in comparison to existing and new atmospheric observations.
- Relate research outcomes to policy needs.
- Develop research plans in consultation with senior staff.
- Assist with planning, execution and reporting as required.
- May be involved in supervision and mentoring.

**Communication**

- Communicating scientific research through authorship or co-authorship of scientific publications papers or reports.
- Making presentations at conferences and seminars.
- Communicating research through presentations and workshops with policy and iwi stakeholders.
- Routinely collaborating with colleagues within GNS, NIWA and across NZ.
- May represent GNS Science at conferences.

**Projects**

- Undertake projects for your manager as and when required.
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:
- Work closely with scientists, students and technicians in the Department of Surface Geosciences and other departments and groups. Report to the Environmental Chemistry Team Leader.

External:
- This position is required to interact closely with the CarbonWatch project team at GNS, NIWA, Manaaki Whenua, University of Waikato and scientists at University of Auckland and Auckland University of Technology. Engage with stakeholders at Auckland Council, Ministry for the Environment and iwi.

Person specification

Skills, knowledge and attributes

Essential:
- Expertise working with biogenic carbon flux models or fossil fuel emission data products
- Competence in one or more scientific programming language.
- The ability to interpret and clearly communicate scientific data and results through written papers and oral presentations to scientific and other audiences.

Desirable:
- Knowledge of atmospheric transport modelling or experience working with atmospheric greenhouse gas data.

Qualifications

Essential:
- PhD in atmospheric or carbon cycle science or related disciplines
- Good computer skills

Other requirements

Desirable:
- First aid certificate
- A valid driver’s licence or the ability to obtain a valid New Zealand driver’s licence within a reasonably short time
- Willingness to travel regularly for field work
Competencies

The following competencies are expected of all staff:

► **Results Orientation**: The ability and commitment to achieve effective results, and work towards or exceed agreed goals.

► **Business Focus**: The ability and desire to apply appropriate principles and practices to maximise revenue, minimise cost, while meeting our obligations.

► **Relationship Management**: The ability and commitment to develop and maintain effective relationships with groups and individuals.

► **Communication**: The ability to express thoughts and ideas clearly and consistently (orally and in writing).

► **Innovation and Initiative**: The ability and commitment to seek and use better ways of doing things (to improve personal and GNS Science performance).

► **Teamwork**: The ability to establish and maintain effective and cooperative relationships.

► **Professional Integrity**: Act in a manner that conveys high personal and professional standards.

► **Technical Expertise**: The ability to maintain and develop technical expertise.

► **Leadership and Management Skills**: The ability to inspire others to achieve desired results and to develop and enable others to realise their full potential.