

# BODEKER SCIENTIFIC



Conducting research into  
the climate and chemistry  
of Earth's atmosphere



*Maximising investment in research*



## Vision

Bodeker Scientific is a scientist-owned research company that demonstrates nationally and internationally recognised research excellence, adapts rapidly to changes in the research environment, remains agile to new opportunities, values its clients and staff, and is socially and environmentally active both globally and locally.

## Mission

Bodeker Scientific operates as a principles-based research organisation that builds on a culture of inclusivity in decision making, individual responsibility, collaboration and collective management of resources, to maximise the value derived from investment in research that makes a positive difference in the world.

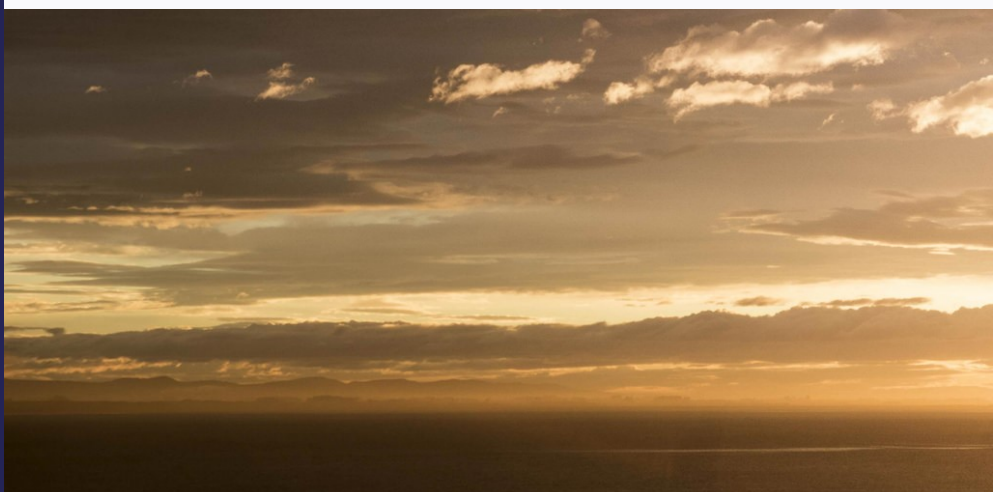
## Principles:

- ⇒ Pursue excellence
- ⇒ Collaborate synergistically
- ⇒ Operate professionally
- ⇒ Enable growth
- ⇒ Maintain integrity

## Skills and Expertise

Since its establishment in 2009, Bodeker Scientific has assembled a team of scientists with skills and expertise in measurements of atmospheric essential climate variables, chemistry-climate modelling, analysis of large databases of atmospheric and climate system, scientific software development (python, matlab, R, Delphi, C++), and numerical techniques for advanced data analysis.

In addition to providing these skills to clients, the team at Bodeker Scientific can also assist with developing funding proposals, managing research programmes, providing strategic scientific leadership on projects, and communicating research results to stakeholders through carefully tailored mechanisms.



## Impact on Global and Domestic Policy

Much of the research conducted at Bodeker Scientific supports the formulation of international and/or domestic policy for protection of the environment and climate system, without being policy prescriptive. Our research has supported the development of World Meteorological Organisation / United Nations Environment Programme scientific assessments of ozone depletion which provides material to the Intergovernmental Panel on Climate Change assessments of the science of climate change. Research into national impacts and implications of climate change have supported regional climate change adaptation studies.

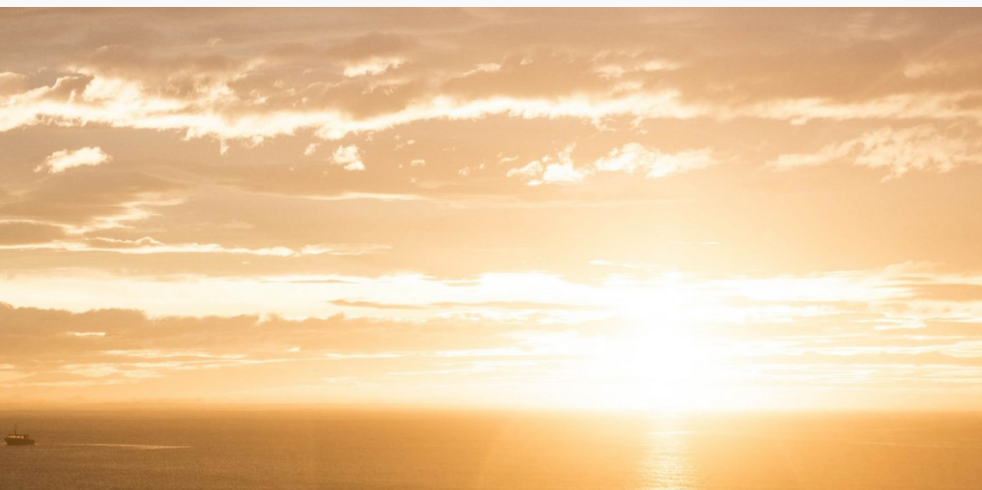
## International Projects

We are involved with several international organisations such as the US National Oceanic and Atmospheric Administration, the German Weather Service, the World Meteorological Organisation, the European Space Agency, and NASA. We are also involved with:

- Supporting the Global Climate Observing System Reference Upper-Air Network
- Development of global data sets of ozone, temperature, aerosols and water vapour

## Deep South National Science Challenge Projects

- Evaluating the New Zealand Earth System Model against modern and historical observations
- Sulfate aerosols over the Southern Ocean
- Testing the New Zealand Earth System Model through a single vertical column



## National Projects

We collaborate with organisations across New Zealand to deliver world-class research that underpins decision-making on our economy, environment and society. These include the National Institute of Water and Atmospheric Research (NIWA), Meteorological Service of New Zealand, Canterbury University, Victoria University of Wellington, University of Otago, District Councils, Antarctica New Zealand, the New Zealand Antarctic Research Institute (NZARI), the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), and Plant & Food Research among others. We have been involved in:

- Climate research including: pattern scaling of surface climate variables; researching the impacts and implications of climate change on New Zealand
- Ozone research including: diagnosing expected recovery of the ozone layer; better simulating ozone's fingerprint on Antarctic climate; using Google Loon balloons to better understand the dynamics of the stratospheric Antarctic vortex
- Investigating processes controlling the transport of sulfur containing species to the stratosphere

## Honours and Distinctions

- 2016 American Chamber of Commerce 'Eric & Kathy Hertz' award for citizen diplomacy
- Named New Zealand contributor to the award of the Nobel Peace Prize to Al Gore and the IPCC
- Recipient of the Edward Kidson Medal, The Meteorological Society of New Zealand
- World Meteorological Organisation Research Award for Young Scientists
- Co-chair of GRUAN (GCOS Reference Upper-Air Network)
- Lead on the establishment of the Centre for Space Science Technology

## Local Support

Bodeker Scientific works with local organisations such as the Central Otago District Council, Making a Difference for Central Otago, and the Central Otago Environment Society to ensure that our global research and thinking translates to local action.



The team at Bodeker Scientific has built an internationally and domestically recognized reputation for innovative thinking and problem-solving in atmospheric, climate and environmental research. We have also developed a track record in successful development of science strategy and in the execution of large research and development projects. We enjoy the challenge of tackling tough problems, in new ways, using a different toolbox. We are passionate about education – if you are an educator and feel that we can support you, please contact us. We will happily speak at local venues about the results of our research.

If you feel we can assist you with your project (strategy, funding, development, execution, stakeholder engagement), we're happy to discuss your requirements with you.

*Contact us today*



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