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| **University of St Andrews**  **School of Earth and Environmental Sciences**  **Post – Doctoral Researcher – AR2883DO**  **Further Particulars for Applicants** |

The School of Earth and Environmental Sciences addresses fundamental questions about the past, present, and future of Earth and other planets. We foster an environment for creative, collaborative science and research-led teaching. We desire individuals whose expertise will enhance that environment whilst strengthening and expanding our existing expertise in climate dynamics, atmospheric science, isotope geochemistry, oceanography, biogeochemistry, field geology and environmental Earth science. The school’s research is organized around three themes:

• *Climate, Society and Environment* focusses on examining Earth’s changing environment. Expertise includes the dynamics of the ocean and atmosphere, ocean biogeochemistry, reconstructions of ocean chemistry, atmospheric CO2 and past climate, landscape evolution, ocean acidification and its impact on biomineralisation and volcanic impacts on climate and society.

• *Earth Resources and Sustainability* targets pressing scientific questions that address the challenge of net zero and the energy transition. Research ranges from finding new resources and providing geological and environmental solutions for their extraction, to best practice in managing our natural environment and our metals, water and energy resources for a sustainable future.

• *Evolution of Planets and Life* explores planetary evolution through time, from the formation of the solar system to the present, understanding geodynamic processes and how they shape planets, and the co-evolution of life and environments.

The School of Earth and Environmental Science has recently undergone an exciting phase of expansion, with new faculty hires – including in climate dynamics, biogeochemistry, and atmospheric dynamics – and a £2M investment in new laboratories. We collaborate in marine research with the European Marine Biology Research Centre, Scottish Oceans Institute and Marine Alliance for Science and Technology for Scotland. We have competition-based access to the UK’s High Performance Computing Facilities and the Natural Environmental Research Council (NERC) computing analysis cluster, JASMIN. The School is a member of the IAPETUS2 and SUPER NERC Doctoral Training Partnership and we have collaborative research interests with Schools across the University.

The postdoctoral researcher will become part of the Ocean Dynamics research group, led by Graeme MacGilchrist, who was recently awarded a [UKRI Future Leaders Fellowship](https://www.ukri.org/what-we-do/developing-people-and-skills/future-leaders-fellowships/). The group applies theory, observations, and a hierarchy of models to a range of questions within ocean and climate science, including ocean dynamics, biogeochemical cycling and the carbon cycle, and marine ecosystem dynamics. The group falls within an exciting and developing collection of researchers within SEES working on a range of problems relevant to past, present, and future climate.

**The job description for this role is attached below.**

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| **Job Description** |

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| Job Title: Post-doctoral Researcher  School: School of Earth and Environmental Sciences  Reporting to: Dr Graeme MacGilchrist  Job Family: Academic Research  Duration of Post: 2 years, with option for a 1-year extension | Working Hours: Full-time/36.25 hours per week  Grade/Salary Range: Grade 6 / £37,099 - £40,521 per annum  Reference No: AR2883DO  Start Date: As soon as possible |

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| **Main Purpose of Role** |

We aim to recruit a postdoctoral researcher to advance understanding of high-latitude ocean dynamics using observations and high-resolution simulations. The project lead at University of St Andrews is Dr Graeme MacGilchrist. The post-holder at St Andrews will work in collaboration with project partners at Princeton University and the Geophysical Fluid Dynamics Laboratory, in Princeton, U.S. The postdoctoral researcher will have the opportunity to spend a period of time in Princeton working with collaborators.

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| **Key Duties and Responsibilities** |

* + - 1. Analysing a range of observations to understand the characteristics of high-latitude ocean gyres.
      2. Developing an idealised coupled ocean sea-ice configuration of GFDL’s MOM6-SIS2 model.
      3. Analysing and interpreting the sensitivity of high-latitude ocean gyres to the model configuration and forcing.
      4. Analysing climate and earth system model output.
      5. Working independently; problem solving; identifying new opportunities and ideas.
      6. Writing up project results into high quality research papers.
      7. Fostering collaborations; engaging with collaborators; contributing to group meetings and department life.
      8. Supervision of undergraduate and postgraduate students where necessary.
      9. Code and software development for feeding back to the open-source science community.

Opportunities to gain teaching experience are available but are not required.

*Please note that this job description is not exhaustive, and the role holder may be required to undertake other relevant duties commensurate with the grading of the post. Activities may be subject to amendment over time as the role develops and/or priorities and requirements evolve*.

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| **Person Specification** |

This section details the attributes e.g. skills, knowledge/qualifications and competencies which are required in order to undertake the full remit of this post.

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| **Attributes** | **Essential** | **Desirable** | **Means of Assessment**  (i.e. application form, interview, test, presentation etc) |
| Education & Qualifications  (*technical, professional, academic qualifications and training required)* | PhD (by start date) in the physical or mathematical sciences | Specialization in ocean or atmospheric circulation, or geophysical fluid dynamics. | Application form, cover letter, c.v. interview |
| Experience & Knowledge  (*examples of specific experience and knowledge sought*) | Experience with analysing output from ocean/climate model simulations and/or global observational datasets. | Experience with running weather/climate model simulations on high performance computer clusters. | Application form, cover letter, c.v. interview |
| Competencies & Skills  (*e.g. effective communication skills, initiative, flexibility, leadership etc*) | Excellent written and oral communication skills.  Outstanding problem-solving abilities.  Knowledge of literature.  Ability to work independently and creatively and take initiative. | Strong publication record.  Experience in software development and contributing to open-source science efforts.  Demonstration of project organizational skills. | Judged by experience, CV, publications, interview. |
| Other Attributes/Abilities | Team player, collaborative, willingness to learn new skills. | Willingness to help out with other group projects and supervision. | Judged by experience and interview |

**Essential Criteria** – requirements without which a candidate would not be able to undertake the full remit of the role. Applicants who have not clearly demonstrated in their application that they possess the essential requirements will normally be rejected at the short listing stage.

**Desirable Criteria** – requirements which would be useful for the candidate to hold. When short listing, these criteria will be considered when more than one applicant meets the essential requirements.

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| **Other Information** |

We encourage applicants to apply online at [www.vacancies.st-andrews.ac.uk/welcome.aspx](http://www.vacancies.st-andrews.ac.uk/welcome.aspx)

For all applications, please quote ref:AR2883DO

Equality, diversity and inclusion are at the heart of the St Andrews experience. We strive to create a fair and inclusive culture demonstrated through our commitment to diversity awards (Athena Swan, Carer Positive, LGBT Charter and Race Charters). We celebrate diversity by promoting profiles of BAME, LGBTIQ+ staff and supporting networks including the Staff BAME Network; Staff with Disabilities Network; Staff LGBTIQ+ Network; and the Staff Parents & Carers Network. Full details available online: <https://www.st-andrews.ac.uk/hr/edi/>

The University of St Andrews is a charity registered in Scotland (No SC013532).

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| **Obligations as an Employee** |

You have a duty to carry out your work in a safe manner in order not to endanger yourself or anyone else by your acts or omissions.

You are required to comply with the University health and safety policy as it relates to your work activities, and to take appropriate action in case of an emergency.

You are required to undertake the Information Security Essentials computer-based training course and adhere to its principles alongside related University Policy and Regulations.

You are responsible for applying the University’s equality and diversity policies and principles in your own area of responsibility and in your general conduct.

You have a responsibility to promote high levels of customer care within your own area of work/activities.

You should be adaptable to change and be willing to acquire new skills and knowledge as applicable to the needs of the role.

You may, with reasonable notice, be required to work within other Schools/Units within the University of St Andrews.

You have the responsibility to engage with the University’s environmental sustainability strategy, committing the University to reach net-zero by 2035.

You are required to engage with the technology, systems and communication channels necessary for you to undertake your work and must update your personal details via HR Self Service whenever there is a change.

Employees with staff management responsibilities must familiarize themselves with appropriate policies.

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| **Who Are We? St Andrews At a Glance** |

* The third oldest university in the English-speaking world.
* Ranked top UK university in the [Guardian University Guide 2024](https://news.st-andrews.ac.uk/archive/st-andrews-keeps-top-spot-in-uk-university-ranking/).
* Ranked number one in the UK in the [Times and Sunday Times Good University Guide 2024](https://news.st-andrews.ac.uk/archive/historic-double-first-for-st-andrews/).
* Students at the University of St Andrews are more positive about their education than students at any other mainstream university in the [National Student Survey 2023](https://news.st-andrews.ac.uk/archive/st-andrews-students-most-positive-in-uk/).
* The University of St Andrews is Scotland’s top university and one of the top four universities in the UK in [The Complete University Guide 2024](https://news.st-andrews.ac.uk/archive/st-andrews-top-in-new-university-rankings/).
* The University is top in the UK for Teaching Quality in the [Daily Mail University Guide 2024.](https://www.dailymail.co.uk/news/university-guide/article-12491201/University-rankings-league-table-Use-Daily-Mails-interactive-guide-right-uni-you.html)
* Research-intensive, more than 88% of research carried out by the University of St Andrews is world-leading or internationally excellent (Research Excellence Framework 2021).
* Athena SWAN [Bronze Award holder](https://news.st-andrews.ac.uk/archive/athena-swan-awards/)
* A [Strategy](https://www.st-andrews.ac.uk/about/governance/university-strategy/) founded on ambition to be World-Leading, Diverse, Global, Entrepreneurial and Sustainable all underpinned by a commitment to socially responsibility.
* A community of 10,000 students and 3000 staff.
* Highly international – more than 30% of students and staff are from outwith the UK
* A non-campus university, closely integrated with the ancient town of St Andrews
* Top quality [sports](https://www.st-andrews.ac.uk/sport/), [music](https://www.st-andrews.ac.uk/music/) and [nursery](https://www.st-andrews.ac.uk/hr/edi/carers/childcare/nurseries/) facilities for staff and students

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| **University of St Andrews** |

Founded in the 15th century, St Andrews is Scotland’s first university and the third oldest in the English-speaking world. The University of St Andrews is one of Europe’s most research-intensive seats of learning. It is one of the top-rated universities in Europe for research, teaching quality, and student satisfaction.

Today, under the leadership of Principal and Vice-Chancellor Professor Dame Sally Mapstone FRSE, the University’s Strategy is to broaden its global influence, with a focus on diversity, building a culture of entrepreneurship, research excellence, and social responsibility.

St Andrews is committed to broadening digital education, enhancing the experience of our on-campus students, while bringing a St Andrews education to much wider global community.

From climate science and sustainable development to energy ethics and grass-roots level action across all the communities in which it operates, sustainability is at the heart of the University’s Strategic vision. World-leading research on sustainability is taking place across the breadth of the University, with researchers addressing key questions on the defining issue of our generation.

The University has set an ambitious target of carbon net zero by 2035, ten years ahead of the Scottish Government’s 2045 target.

St Andrews is ranked as the top university in the UK in *The Guardian Guide 2024*, and *The Times and Sunday Times University Guide 2024*. The *Complete University Guide 2024* ranks St Andrews as the top university in Scotland, and fourth in the UK.