# Research Scientist/Engineer – CSOF5

Role summary for potential applicants

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| Advertised Job Title**:** | Research Scientist |
| Reference Number**:** | 56667 |
| Classification**:** | CSOF5 |
| Salary Range: | AU $95K to AU $103K plus up to 15.4% superannuation |
| Location**:** | Hobart, TAS |
| Tenure: | Indefinite |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Functional Area**:** | Research Scientist |
| % Client Focus - Internal: | 50% |
| % Client Focus - External: | 50% |
| Reports to the: | Leader for verification and applications activity in decadal forecast project |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO's strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.  The role requires an assessment of climate variability and forecasts, and engagement in the applications of forecasts to end users. This entails assessment of atmospheric and surface processes, identification of extreme events and of the utility of forecasts for climate sensitive sectors. The work will be directed at understanding and describing climate risks, and management of those risks by connecting climate forecasts with planning for water resources, agriculture, infrastructure, energy, and finance sectors. The role provides an end-to-end capability in generating, assessing, and using climate forecasts, and will entail working closely with teams that include climate model development, process studies, forecast verification, data standards, applications modelling (especially hydrology), and decision analysis.  Specifically, the role will assess climate variability and extremes in observations and climate forecasts, develop measures of predictability and skill in forecasting key climate extremes, contribute to the process of debiasing and calibrating climate forecasts for user applications, and engage with end users of forecasts. The position will contribute to the advancement and use of the Climate Analysis Forecast Ensemble system at CSIRO and to the suite of Earth system models run by the Climate Science Centre. |

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| **Duties and Key Result Areas:** |
| * Incorporate novel approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing and further research. * Independently conduct original scientific research into the variability and predictability of climate extremes of relevance to key stakeholders. * Characterise and understand processes shaping the internal modes of variability in the atmosphere in observations and climate models. * Assess the mechanisms via which climate signals in the ocean are teleconnected through the atmosphere to influence broader regions. * Work with colleagues to develop process-based climate model diagnostics and verification tools. * Provide skill assessments of climate extremes such as drought, extreme rainfall and temperature, storms, and concurrent extremes. * Engage with key stakeholders in water resources and other climate sensitive industries. * Work with user communities on testing and applications of climate forecasts. * Develop novel methods, concepts, and software in support of assessments of extremes in multiyear climate forecasts, and in use of the forecasts. * Develop a system for communication and preparedness around seasonal to decadal drought forecasts for Australia. * Communicate effectively and respectfully in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation. * Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences. * Work effectively as part of a multi-disciplinary, often regionally dispersed research team, to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers. * Under the guidance of Senior Research Scientists/ Engineers, work collaboratively and honestly with internal and external colleagues, clients and partners to help define and satisfy objectives for small to medium research projects. * Assist in leading small research projects, including the negotiation of resource requirements. * Provide coaching and on-the-job training to technical staff and students to ensure experiments are established in accordance with research design. * Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals. * Other duties as directed. |

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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed*  ***Pre-Requisites:***   1. **Education/Qualifications:** A doctorate or equivalent research experience in a relevant discipline area, such as meteorology or climatology. 2. **Communication:** Strong written and oral communication skills including the ability to publish research results, prepare reports and present the results of scientific investigations at national and international conferences and stakeholder meetings. 3. **Publications: A solid record of publication in quality, peer reviewed journals.** 4. **Behaviours: A history of professional and respectful behaviours and attitudes in a collaborative environment.**   ***Essential Criteria:***   1. **A strong familiarity with weather processes, synoptic meteorology, and rainfall variability.** 2. **Experience with water resources management, the application of climate data to water resources, and hydrological modelling.** 3. **Experience processing station-based climate data and atmospheric reanalysis products.** 4. **Experience applying dynamically-based diagnostics of large scale atmospheric circulation.** 5. **The ability to communicate research results clearly to stakeholder groups.** 6. **The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out independent individual research, to achieve organisational goals.** 7. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Experience with analysis of climate extremes. 2. **Experience with assessment of teleconnection processes in the atmosphere.** 3. A **good understanding of extratropical modes of internal variability in the atmosphere.** 4. Good knowledge of the Linux operating system. 5. Experience using software languages and tools such as R, Matlab, or python. 6. A commitment to best practice in software development.   **As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to**:   * Excellent science * Inclusion, trust & respect * Health, safety & environment * Delivery on commitments.   **In your application and at interview you will need to demonstrate alignment with these behaviours.**  ***Special requirements:***  The successful candidate must be willing and able to travel both interstate and internationally. |

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| **Other Information:** |
| **How to Apply**  Please apply for this position online at <https://jobs.csiro.au/> and enter requisition number **56667**. Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’).  Please load your CV (Maximum 2MB). You may also be required to respond to some screening questions.  If you experience difficulties applying online call 1300 984 220 for assistance. Outside Australian business hours please email: [csiro-careers@csiro.au](mailto:csiro-careers@csiro.au).  **Referees**: Please provide contact details of two previous supervisor or academic/professional referees in your resume/CV. We will ask your permission before making contact.  **Contact:** If after reading the position details above you require more information please contact:  **Dr James Risbey** via email: [james.risbey@csiro.au](mailto:james.risbey@csiro.au) or phone: **+61 3 62325086**  Please do not email your application directly to Dr Risbey. Applications received via this method may not be considered by the selection panel.  **About CSIRO**  Australia is founding its future on science and innovation. Its national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.  Find out more! [www.csiro.au](http://www.csiro.au).  We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you.  Find out more! [CSIRO Balance](https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance)  **CSIRO Oceans and Atmosphere**  CSIRO Oceans and Atmosphere has advanced oceanographic, atmospheric and marine laboratories and leading engineering and technology facilities housed across its ten sites. Our facilities are designed to enhance collaboration, enable world leading research and preserve science data for re-use by others. CSIRO also operates facilities on behalf of the nation, such as the marine national facility, the RV Investigator.  We collaborate with Australia's Bureau of Meteorology on weather, climate and Earth system science, through The Centre for Australian Weather and Climate Research partnership.  We collaborate with leading science agencies from around the world including the National Oceanic and Atmospheric Administration (NOAA) and University of Washington in the US, the Met Office Hadley Centre and Plymouth Marine Laboratory in the UK, the National Institute for Water and Atmospheric Research in New Zealand, and the Japan Agency for Marine-Earth Science and Technology, the State Oceanic Administration and Chinese Academy of Science in China, among others. |