# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Climate Research Engineer |
| Job Reference | 90902 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$105 - AU$114 per annum (pro-rata for part-time)  plus up to 15.4% superannuation |
| Location(s) | Hobart, Australia preferred |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates (visa sponsorship may be provided for the successful candidate) |
| Position reports to the | Senior research scientist, Climate variability and hazards team |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact James Risbey via email at james.risbey@csiro.au or phone +61 3 6232 5086 |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

The role of Research Engineer staff is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Engineer may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The Climate Research Engineer 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.

This position will provide dedicated curation, analysis, and delivery of climate hazard research and products from Large Ensemble climate forecasts for climate risk applications. The development of these products will meet the growing need for the delivery of climate-risk products to the public. The development of Large Ensemble Climate Forecast archives is recognised by the World Climate Research Program (WCRP) as a critical tool in generating the very large samples needed to forecast and characterise extreme climate events. The position would entail the development and use of large initial condition ensembles from international large ensemble initiatives. The large ensembles will be mined for detection of emerging extreme weather events, capturing their footprints on land and water, and for attribution to their changes. The role would provide rapid diagnosis of extreme events, their likelihoods, the regions impacted, and their risks to national infrastructure and livelihood. The information on extreme event footprints and frequency will be coupled with national databases on the impacts of extreme events to provide assessments of climate vulnerability and risk. This information is critical for assessing current and emerging climate risks and guiding response and adaptation efforts. The role will expand and adapt to meet emerging demand for climate intelligence around climate extremes and hazards.

### Duties and Key Result Areas

* Work with CSIRO and partners to utilise large initial condition climate ensembles to characterise climate extremes and hazards
* Provide leadership in software design and use by CSIRO and partner agencies
* Develop and apply indices of weather and climate extremes for use in reanalyses and large forecast ensembles
* Lead, develop, and contribute software for processing very large ensembles to the international community and leverage international collaborations between the large ensemble community and CSIRO
* Develop and provide assessments of the likelihood and statistics of climate extremes and their footprints across Australia from large ensembles
* Process near-real-time assessments of the incidence of extreme events in ensemble members and develop warning systems to provide information on extreme events and their impacts for users
* Connect climate intelligence on extreme events to hazard impact databases to assess vulnerability to extremes
* Display openness and agility to take on new projects, new hazards, new collaborations, and new clients in response to emerging and sometimes urgent need
* Contribute to the global Pangeo community, including contribution to the associated open source Python-based software ecosystem
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as [computer science, mathematics, statistics, engineering, physics, meteorology, or climatology].
2. Knowledge of and/or experience with the approaches commonly used to assess the likelihood and statistics of climate extremes (e.g. extreme value analysis, climate indices).
3. Demonstrated ability and experience working with (large) climate model datasets.
4. Familiarity with the python programming language.
5. Familiarity with good practice programming, documentation, and version control.

## **Desirable**

1. Familiarity with the Pangeo community and software stack.
2. Experience writing scientific software in a collaborative manner (e.g. via GitHub).
3. Experience working with climate forecast ensembles.
4. Experience with quality assurance and curation of large datasets.
5. History of authorship of scientific papers in journals and/or reports

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others’ reactions.
* **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate responses by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:**Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of change.

Special Requirements

* The successful candidate will be asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* If the successful candidate is not an Australian Citizen or Permanent Resident, they may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test- https://ielts.com.au/)

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted