# Position Details

## CSIRO Early Research Career (CERC) Postdoctoral Fellowship– CSOF4

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| The following information is for applicants | |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in Coastal Climate Modelling |
| Job Reference | 75269 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$88,163 to AU$96,573 pa + up to 15.4% superannuation |
| Location(s) | Hobart, TAS |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents * Australian temporary residents currently residing in Australia (visa sponsorship may be provided to eligible onshore candidates) |
| Position reports to the | Project Leader (Research Scientist, Coastal Hydrodynamic Modelling) |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 1 |
| Enquire about this job | Contact Clothilde Langlais via email at [clothilde.langlais@csiro.au](mailto:clothilde.langlais@csiro.au) or phone +61 3 6232 5399 |
| 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. |

### Role Overview

**CSIRO Early Research Career (CERC) Postdoctoral Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work experience. These fellowships aim to develop the next generation of future leaders of the innovation system through:

* A differentiated career development program to deliver capability excellence and breadth across all facets of the national innovation system.
* Research training via strategic research and development projects with a clear focus that will deliver real impact through science and engineering excellence;
* An innovative culture supporting the development and demonstration of original thinking and expertise leading to peer-recognition; and
* Opportunities to develop skills and experience in collaborative research teams to effectively work within national and global multi/transdisciplinary and multi-stakeholder environments.

CERC Postdoctoral Fellows **are appointed for three years or part time equivalent.**

The Great Barrier Reef (GBR), the world’s largest coral reef ecosystem, is under increasing anthropogenic stresses. The management of the GBR requires projections of the ocean and ecological dynamics throughout the 21st century to ensure that current strategies will optimise ecosystem health in the decades to come. This postdoctoral fellowship will contribute to the CSIRO impact goal of “unlocking climate intelligence”, building resilience against climate change and mitigating risks using ocean modelling tools. This opportunity is based within the Coast and Ocean Research Program of the CSIRO Oceans and Atmosphere Business Unit.

The Postdoctoral Fellow will work as part of a collaborative and multidisciplinary modelling team: from hydrodynamic to biogeochemical and connectivity modelling, from small scale and tidal dynamics to basin scale climate signals, and from coral bleaching to ocean acidification. The team is mainly based at CSIRO Hobart, with additional collaborators at the Australian Institute of Marine Science (AIMS) and James Cook University (JCU), Townsville, and a network of partners from the Great Barrier Reef (GBR) World Heritage Area (GBR Foundation, GBR Marine Park Authorities, Queensland Government Office of the GBR).

The Postdoctoral Fellow will develop predictions of future marine conditions in the GBR, at a scale relevant to ecological responses. They will be responsible for downscaling global climate predictions using a coastal model of the GBR, and exploring local impacts accounting for the critical climatic threats (warming, acidification, changes in circulation, pollution).

Through the development of the GBR predictions, the postdoctoral fellow will contribute to science delivery at three levels:

* assessing how the climate signal propagates into the coastal zone and linking coastal dynamics to climate signal;
* mapping the local footprint of long-term changes, identifying “hotspots” and their impacts on coastal marine ecosystem.
* assessing the impact of climate change on the reef management strategies and provide a pathway to better-informed long-term decision making around water pollution, coral bleaching, restoration, and invasive species.
* Under this umbrella, the specific science questions can vary according to the fellow's background, skill-building expectations, and emerging issue on the GBR. They will be able to steer the research direction towards physical, chemical or biological science questions. They will also be able to choose between the different pathways to impact, depending on the knowledge, skills, experience the fellow would like to build for their career.

### Duties and Key Result Areas:

* In collaboration with the modelling team, downscale future climate patterns to explore local impacts on the Great Barrier Reef
* Design and analyse numerical experiments to investigate the reef-scale effects of climate change at the resolution to inform effective management of the coastal area
* Effectively use of High-Performance Computing (HPC) facilities and technologies for model simulations and analysis of the outputs.
* Produce high quality scientific papers suitable for publication in high impact journals
* Prepare appropriate conference papers and present the results at conferences
* Contribute to the development of innovative concepts and ideas for further research
* Make a contribution to the effective functioning of the research team and help deliver CSIRO’s organisational objectives and plans
* Work collaboratively with colleagues within your team, the business unit and across CSIRO
* Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation
  + Proactively undertake development to grow effective researcher capabilities to support career goals.
  + Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

[**The CERC Postdoctoral Fellow learning and development program**](http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships)is developed between the CERC Postdoctoral Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellows’ capabilities to the level expected of an independent researcher and will include on-the-job and course-based development encompassing:

* Discipline-specific techniques and protocols
* Professional growth
* Project management
* Communication and influencing skills
* Working and collaborating with others

## **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 response by adapting/creating and testing alternative solutions.
* **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **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 changes.

## **Selection Criteria**

#### Essential

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

1. A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as physical or biogeochemical oceanography and environmental modelling or applied fluid dynamics.

Please note: To be eligible for this role you must have **no more than 3 years** (or part time equivalent) of postdoctoral research experience.

1. Experience in the development and/or interpretation of numerical models of the ocean and the analysis of large and complex oceanographic data sets.
2. Experience in working in a Linux/UNIX computing environment and a high level of programming skills in languages such as FORTRAN, C, Python and MATLAB.
3. Demonstrated high level written and oral communication skills with the ability to represent the research team effectively, including the presentation of research outcomes at national and international conferences and to policy and decision makers.
4. Demonstrated ability to write peer-reviewed scientific papers, detailed technical reports and/or competitive grant applications.
5. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable:**

1. Experience using supercomputers and clusters
2. Experience in model downscaling technique
3. **The ability to work effectively as part of a multi-disciplinary, potentially regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**

To be appointed to this CERC Postdoctoral Fellowship role within CSIRO, candidates will be expected to commence employment by December 2021/January 2022. To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates are required to have **submitted** their PhD at the time of commencement, as a minimum requirement, if PhD conferment has not been obtained. If a candidate has submitted, but their PhD has not yet been formally attained, the starting salary will be CSOF4-1 ($85,361). Upon CSIRO receiving written confirmation that the PhD has been awarded (within a six month period from commencement date), the salary will be increased to the negotiated level and the difference will be back-paid to the Officer’s start date.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* The successful candidate may be required to undertake a pre-employment medical examination prior to commencement.
* 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/

**Our value proposition**

We want CERC Postdoc Fellows to join our world class science, engineering and digital teams to solve big, complex problems that make a real difference to the future of Australia and the world.

You'll get to work with some of the most talented minds in their fields, not just in Australia, but in the world. At CSIRO, we spark off each other, learn from each other, trust each other and collaborate closely to achieve more than we could individually.

CSIRO Early Research Career (CERC) Postdoctoral Fellow Experience Employee Value Proposition (EVP). Find out more [here](https://www.csiro.au/en/careers/postdoctoral-fellowships)!

## **About CSIRO:**

We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!

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

* 1. People First
  2. Further Together
  3. Making it Real
  4. Trusted

Find out more about CSIRO [Oceans and Atmosphere](https://www.csiro.au/en/Research/OandA)