# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Aquatic Biogeochemical/Ecological Modeller |
| Job Reference | 100015 |
| Tenure and work schedule | Indefinite  Full-time (preferred)  *We will explore options for part-time and flexible work arrangements based on needs of the role and individual circumstances.* |
| Salary Range | AU$114,219 – AU$123,605 per annum plus up to 15.4% superannuation |
| Location(s) and office arrangements | Hobart, TAS  *Flexible work options available, and other CSIRO sites with major Environment RU presence may be considered based on the needs of the individual circumstances.* |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents only |
| Position reports to the | Team Leader, Coastal Biogeochemical Modelling |
| Client Focus – Internal | 30% |
| Client Focus – External | 70% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Emlyn Jones (Research Group Leader – Marine Systems Modelling & Informatics), via email at [emlyn.jones@csiro.au](mailto:emlyn.jones@csiro.au); OR  Jenny Skerratt (Team Leader – Coastal Biogeochemical Modelling), via email at [jennifer.skerratt@csiro.au](mailto:jennifer.skerratt@csiro.au) |
| Support and workplace adjustments | We offer a range of reasonable supports and workplace adjustments. Please let us know via email at [Piumi.Desilva@csiro.au](mailto:Piumi.Desilva@csiro.au) (Piumi De Silva – Talent Acquisition Partner) if we can help you to equitably participate in our recruitment process or the role itself. |
| 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) |

**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).

### About CSIRO

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology. Many of our iconic innovations were once considered impossible until someone, just like you, joined us and took on the challenge.

As one of the world’s largest multidisciplinary mission-driven research organisations, we are focused on the issues that matter the most: for our quality of life, for the economy and for our environment. We believe diverse teams are more effective and deliver more innovative outcomes. When we all focus on the big things that really matter, and work in partnership with our communities and [Indigenous Australia](https://www.csiro.au/research/indigenous-science), Australian science and technology can solve seemingly impossible problems and create new value for all Australians. Visit [CSIRO.au](https://www.csiro.au/) for more information.

### Role overview

The role of Research Scientist/Engineer staff, in general, is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. They may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. They 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 Aquatic Biogeochemical/Ecological Modeller will join CSIRO’s Coastal Biogeochemical Modelling (CBM) team, within the ‘Coastal and Oceanic Systems’ Program. The CBM team works closely with the Coastal Hydrodynamic Modelling (CHM) team to develop and apply integrated models that couple hydrodynamics, sediment dynamics, biogeochemistry and ecological processes. These models address key environmental challenges and research questions across estuarine, coastal and shelf waters in Australia and internationally. Over the past 20 years the CBM and CHM teams have built a strong cohesive and collaborative research environment that brings together senior researchers, engineers, postdoctoral fellows and PhD students together, with a strong emphasis on support and engagement of all team members. Further information on the teams can be found at (<https://research.csiro.au/cem/>).

The Aquatic Biogeochemical/Ecological Modeller would require strong experience in process-based models and their implementation and interpretation. The role will contribute to key multi-disciplinary projects supporting environmental decision-making, particularly in relation to aquaculture ([Tasmanian Coastal Information System](https://stormbaymodelling.csiro.au/)), ecosystem health and restoration ([eReefs](https://www.ereefs.org.au/) and [RRAP](https://gbrrestoration.org/)).

The position requires a strong foundation in several of the following areas: oceanography, biogeochemical cycles and processes (e.g., nitrogen, phosphorus, oxygen, sulphur, iron, and microbial dynamics and plankton), as well as numerical and computational methods. The Aquatic Biogeochemical/Ecological Modeller will contribute to the continued development and application of CSIRO’s Environmental Modelling Suite ([EMS](https://research.csiro.au/cem/software/ems/)) and will be expected to work independently with clients, collaborators, and stakeholders. The role may include client meetings and fieldwork duties, and therefore require the ability and willingness to travel as required.

### Duties and Key result areas

* Incorporate novel approaches into marine biogeochemical models by adapting and/or developing original concepts and ideas.
* By direct involvement, and collaboration across disciplines, contribute to the application of aquatic BGC models to address issues arising in the marine coastal zone.
* Be responsible for client liaison, model implementation and calibration, and dissemination of model results for existing projects in an independent manner.
* The group has developed and operates a sophisticated modelling package – the Environmental Modelling Suite (EMS). The appointee will apply this package and contribute to its routine and strategic development in collaboration with other scientists.
* Contribute to the strategic development of modelling tools and frameworks supporting EMS.
* Initiate, manage and execute externally funded projects within imposed time and budget limitations.
* Present results in a meaningful format, prepare reports for clients, conferences, and/or write scientific papers for publication.
* Contribute to meeting mission and divisional objectives as required, or as directed by the Team Leader, Research Group Leader and Research Program Director.
* Apply discretion to decide and implement strategies appropriate to the successful completion of work.
* Address problems promptly and in a constructive manner.
* Communicate openly, effectively and respectfully with all staff and clients in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work effectively as part of a multi-disciplinary research team to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers.
* 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.

## **Selection criteria**

#### Essential

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

1. A PhD, and/or equivalent combination of qualifications and research experience, in a relevant discipline area, such as marine biogeochemistry, biological oceanography, or numerical modelling.
2. Several years of demonstrated postdoctoral experience, and a proven record of innovative development and implementation of three-dimensional aquatic biogeochemical/ecological models to address issues related to coastal, shelf and estuarine circulation.
3. 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.
4. Demonstrated ability in the development and/or implementation of spatially resolved aquatic models.
5. Experience with the interpretation of aquatic BGC/ecological dynamics from model output and field observations.
6. A demonstrated publication history of authorship on quality scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.
7. Ability to work effectively and be closely involved with a multi-disciplinary, diverse research team, as well as carry out independent individual research, to achieve organisational goals.
8. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.

## **Desirable**

1. Demonstrated experience in managing projects and work packages, leading multi-disciplinary teams and mentoring, and driving client interactions.
2. Ability to obtain and maintain a security clearance at least at the Baseline level.
3. In addition to expertise in aquatic biogeochemistry, familiarity with other disciplines such as physical oceanography, remote sensing/ sediment/ catchment/optical modelling, eDNA, environmental management and data assimilation.
4. Proficiency with Linux/UNIX/cloud/HPC systems and the use of scientific programming languages (e.g. Python/MATLAB) applied to numerical modelling and analysing large environmental datasets.
5. Experience in using observations to assess and improve BGC/ecological models.
6. Working knowledge of unstructured grid models.

## **Not sure if you meet all the criteria?**

While it is CSIRO policy that the successful candidate must meet all the essential criteria, there are many ways to demonstrate this. Don’t let the list discourage you. If you are unsure about applying, please reach out to the contact on page 1 of this document so we can discuss the role further.

## **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.

## **Setting you up for success**

We understand that not everyone works in the same way and sometimes people may require reasonable support and adjustments to perform at their best. Whether related to the recruitment process and or the role itself, this may include options such as providing different methods of communication, flexible hours or physical adjustments to work methods. If you feel comfortable, we encourage you to share any support and adjustments you may need to carry out the inherent requirements of the role. Please let us know via email [Piumi.Desilva@csiro.au](mailto:Piumi.Desilva@csiro.au) (Piumi De Silva – Talent Acquisition Partner) if we can help you to equitably participate in our recruitment process or the role itself.

## **Life at CSIRO and flexible working arrangements**

We [work flexibly at CSIRO](https://www.csiro.au/en/careers/life-at-csiro/Flexible-work), offering a range of options for how, when and where you work.  We can discuss flexible work arrangements with you during the recruitment process. CSIRO also offers a range of leave entitlements, [benefits](https://www.csiro.au/en/careers/life-at-csiro/Benefits) and [career development](https://www.csiro.au/en/careers/life-at-csiro/Career-development) opportunities. To learn more, visit [Careers at CSIRO](https://www.csiro.au/en/careers).

We celebrate the uniqueness of our workforce and are committed to creating [diverse and inclusive teams](https://www.csiro.au/en/careers/life-at-csiro/Diversity-inclusion-belonging) where everyone feels they belong. CSIRO is an equal employment opportunity organisation dedicated to recruiting people based on merit, and reflecting the diversity of the community we serve. We recognise true diversity encompasses all ages, nationalities, abilities, cultures, genders, sexualities, faiths, levels of education, diversity of thought and many more aspects of identity. By empowering diverse teams, our community is reflected in the solutions we create.

## **CSIRO values**

CSIRO is a values-based organisation committed to values-based leadership.

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| **Value** | **Descriptor** | **Behaviour** |
| **People first** | Our priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences. | * Respectful * Caring * Inclusive |
| **Further together** | We achieve more together than we ever could alone. We listen and collaborate, in teams, across disciplines, across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems. | * Accountable * Authentic * Courageous |
| **Making it real** | We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures and leverage them to learn as we strive to be the force for positive change. | * Partnering * Cooperative * Humble |
| **Trusted** | We’re driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia’s trust in CSIRO. | * Curious * Adaptive * Entrepreneurial |

## **Child safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

Special requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.