# 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 Remote Monitoring of Habitat Condition |
| Job Reference | 82461 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$89,926 to AU$98,504 pa + up to 15.4% superannuation |
| Location(s) | Canberra, ACT |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens; * Australian Permanent Residents; and * Australian temporary residents currently residing in Australia (visa sponsorship may be provided to eligible onshore candidates) |
| Position reports to the | Project Leader |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Karel Mokany via email at Karel.Mokany@csiro.au or phone +61 2 6246 4443 |
| 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 area 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

**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 full-time or equivalent.**

The CERC Postdoctoral Fellow will be a Spatial Ecologist or Remote Sensing Analyst that will join the Quantitative Biodiversity Assessment Team. The CERC Fellow will have a strong theoretical understanding and practical experience in spatial ecological modelling, applications of remote sensing to ecology, spatiotemporal statistics, vegetation ecology, and data integration as well as advanced programming skills. Supported by a team of experts in these disciplines, the CERC Fellow will develop a particular area of transformative technology which has been identified as vital to enabling rapid response to ecosystem change for more effective and targeted biodiversity management. The novel approach to be developed by the Fellow will combine ecological information, high-performance analytics and ongoing advances in Earth observation data-streams, to provide dynamic monitoring of changes in the ecological condition of terrestrial biodiversity habitat across Australia.

The CERC Postdoctoral Fellow will work closely with the CSIRO team that have developed the nationally consistent Habitat Condition Assessment System (HCAS). Moving from the current analytical capability of HCAS to one that provides regular, up-to-date, fine resolution habitat condition monitoring will require the CERC Fellow (supported by the HCAS team) to undertake novel research to overcome the key scientific challenges associated with this endeavour.

The CERC Fellow will join the high-performing Living Landscapes Research Program in CSIRO Land and Water and collaborate closely with Australian government agencies responsible for monitoring and managing biodiversity. The Living Landscapes Research Program develops tools and technologies to support government, industry and communities to realise a sustainable Australian environment where biodiversity flourishes, ecosystems function and adapt, and ecosystem services provide for the needs of future generations. The program contributes to the development of integrated science solutions to complex environmental problems by deploying cutting-edge biophysical expertise on whole-of-system approaches to monitoring, assessment, evaluation and reporting on land and ecosystem outcomes.

The CERC Fellow will make a substantial contribution to CSIRO Land and Water’s strategic goals relating to Thriving Natural Systems and Sustainable Industries, by providing the science necessary to regularly, reliably and remotely monitor the capacity of landscapes to support our unique biodiversity, right across Australia.

### Duties and Key Result Areas:

Under the direction of senior research scientists and engineers, the CERC Postdoctoral Fellow will:

* Be primarily responsible for conceptualising and developing a new approach to dynamic habitat condition monitoring based on remote sensing, involving collaboration with cross-domain CSIRO scientists.
* Identify and harness a range of new statistical analysis techniques and data sources in developing science solutions to the key challenges of dynamic habitat condition monitoring.
  + Recognise and exploit opportunities for innovation and the generation of new theoretical perspectives, and progress opportunities for the further development or creation of new lines of research.
  + Carry out research investigations requiring originality, creativity and innovation.
* Develop internal and external research collaborations where appropriate.
* Work with the Habitat Condition Assessment System (HCAS) project stakeholders and collaborators (e.g. Department of Agriculture, Water and the Environment; Geoscience Australia; State agencies) in planning and implementing research that meets the needs of potential users
* Record, manage, and analyse data/information using relevant data and code management techniques, such as version control.
* Proactively undertake professional development to gain diverse and valuable skills, both technical and science leadership/administration, growing effective researcher capabilities to support career goals.
* Participate as an active member of CSIRO Land and Water’s Quantitative Biodiversity Assessment Team, and the HCAS project team.
* Publish and communicate research outcomes in accessible forms, including high-impact scientific papers and conference presentations.
  + 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 spatial ecological or environmental modelling, or ecological applications using remote sensing, machine learning, or data analytics.

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

1. Demonstrated experience in spatial ecological modelling and/or spatiotemporal environmental data analysis.
2. Proficiency in advanced spatial statistical analysis of large datasets using programming languages such as Python, R, or similar.
3. High level written and oral communication skills, including first author publications in peer reviewed journals, and presentation of research outcomes at national or international conferences.
4. Demonstrated ability to effectively communicate and collaborate with other researchers and stakeholders.
5. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.
6. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.
7. The ability to remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.

## **Desirable:**

1. Knowledge and research experience in Australian ecosystems.
2. Experience working across desktop, high performance and commercial cloud platforms, and managing complex data analysis workflows.
3. Experience applying a variety of statistical modelling approaches, including machine learning.
4. Experience working collaboratively using version control systems and managing or integrating large and complex datasets.
5. Experience in applying remote sensing data in ecological analyses

Candidates are also 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 (AU$87,068). 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.
* 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/)!

Find out more about CSIRO [Land and Water](https://www.csiro.au/en/Research/LWF)