# Position Description

## Postdoctoral Fellowship– CSOF4

The following information is for applicants

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| Advertised Job Title**:** | CSIRO Postdoctoral Fellowship in Earth System Science |
| Job Reference: | 58734 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | [ ]  Australian Citizens Only[ ]  Australian/New Zealand Citizens and Australian Permanent Residents Only* [x]  All Candidates
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| Percentage of Client Focus - Internal: | 100% |
| Percentage of Client Focus - External: | 0% |
| Reports to the: | Senior Principal Research Scientist |
| Number of Direct Reports: | 1 |
| Name and Contact Details For Applicant Enquiries: | pep.canadell@csiro.au |
| Contact Details For Applying: | Call 1300 984 220 or email csiro.online@csiro.au  |
| How to Apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon  |

## Role Overview:

**Postdoctoral Fellowships** at CSIRO provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work experience. These fellowships will help launch their careers, provide experience that will enhance their career prospects, and facilitate the recruitment and development of potential leaders for CSIRO.

Postdoctoral Fellows **are appointed for up to three years or part time equivalent** and will work closely with a leading Research Scientist or Engineer in their respective field. They carry out innovative, impactful research of strategic importance to CSIRO with the possibility of novel and important scientific outcomes. They present the findings in appropriate publications and at conferences.

The Postdoctoral Fellow will work with a team to establish the Australian Greenhouse Budget for the most recent decade, including anthropogenic and natural fluxes of the three main GHGs (CO2, CH4, N2O). The Postdoctoral Fellow will take a top-down/bottom-up approach to analysing and reconciling regional, national and global lines of evidence to constrain the GHG budget, including atmospheric information and inversions, land surface modelling (DGVMs), inventory data, remote sensing products etc. This work will include different approaches such as weighted multi-model ensembles with weights set by observations, and Bayesian frameworks for combining model outputs and observations.

The Postdoctoral Fellow will also be involved and lead components of the international REgional Carbon Cycle Assessment and Processes (RECCAP2) of the Global Carbon Project, leading to additional high-level global scale syntheses and analyses.

## Duties and Key Result Areas:

* Under the direction of senior research scientists, carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
* Develop a GHG budget framework and establish approaches for integrating the data, models and uncertainty.
* Work with land modelling and atmospheric teams to design attribution experiments and upscale observational data to continental scales.
* Explore new data sources (regional, national and global) for a spatial-temporal analysis including new satellite products, inventory data, blue carbon, and the TERN network.
* Undertake regular reviews of relevant literature and patents.
* Possess the discipline to carry out autonomous research, produce high quality scientific and/or engineering papers suitable for publication in quality journals, for client reports and granting of patents.
* Prepare appropriate conference papers and present those at conferences as agreed with your supervisor.
* 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**.**
* Undertake an appropriate training and development program developed by CSIRO.
* 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, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

**CSIRO’s postdoctoral training program**is developed between the Postdoctoral Fellow and a CSIRO scientist or engineer. 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

<http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships>

## CSIRO Competencies:

1. **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.**
2. **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.**
3. **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.**
4. **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
5. **Independence: Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).**
6. **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:

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

1. A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such asEarth System Science, Applied Mathematics, Ecosystem Ecology, Global Change Biology, Environmental Sciences, Physics, or Chemistry*.*
2. Experience working with global/large scale biospheric modelling (e.g., DGVMs) in the context of the carbon cycle.
3. Demonstrated high level skills in complex spatial and temporal analysis of large datasets with commensurable knowledge of computer languages, and overall advanced knowledge of numerical methods in the context of environmental research.
4. High degree of understanding of the carbon cycle, particularly of land-atmosphere carbon fluxes and processes.
5. **The ability to work effectively, professionally and respectfully as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**
6. A record of science innovation and creativity, plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.
7. **High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including at national and international conferences.**
8. **A record of publications in quality, peer reviewed journals.**

## Desirable Criteria:

1. Prior contributions to the development of carbon and other GHG budgets.

To be appointed as a 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 ($82,450).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 security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents 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 imagine. We collaborate. We innovate. To find out more visit us [online](http://www.csiro.au/)!

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