# Position Details

## Research Projects- CSOF4

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| The following information is for applicants | |
| Advertised Job Title | Spatial Data Scientist |
| Job Reference | 75364 |
| Tenure | Indefinite  Full-time |
| Salary Range | AU$85,361 to AU$96,573 pa + up to 15.4% superannuation |
| Location(s) | Melbourne or Brisbane |
| Relocation Assistance | Will be provided to the successful candidate, if required |
| Applications are open to | * Australian/New Zealand Citizens * Australian Permanent Residents |
| Position reports to the | Team leader - Bushfire Adaptation |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Raphaele Blanchi via email at raphaele.blanchi@csiro.au or phone +61 4 0970 6678 |
| 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

The Spatial Data Scientist position will work within the Bushfire Adaptation Team. The role will deal with large data processing, analysis, programming, spatial analysis, and cloud computing skills. The role involves the design and implementation of data streams and analytic systems that define bushfire hazard in the context of bushfire loss.

Research Projects staff in CSIRO collaborates in scientific and technological activities with other research staff, usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

The Bushfire Adaptation team is studying the impacts of bushfire on communities and the built environment and exploring the various ways and means to prevent or minimise it using many disciplines and scales; from local to global, and from materials combustion to the study of risk perceptions and decision-making during natural disasters.

The Bushfire Adaptation Team sits within the Landscape and Ecology Group which includes additional areas of expertise, such as bushfire behaviour, ecosystem function, natural resource management, ecosystem dynamics, and remote sensing to address environmental challenges. Landscape and Ecology is part of the Living Landscapes Program within the Land and Water Business Unit. The program provides science to support the sustainability of resource use and industries across cultural, agricultural, and natural landscapes. The primary duties are to focus on the requirements of the Bushfire Adaptation team, but may also support other activities at the Group, Program and Business Unit level, or elsewhere in CSIRO as required.

### Duties and Key Result Areas:

The role will include core activities of:

* Processing and analysis of remotely sensed data and other spatial and non-spatial data from satellite, airborne and terrestrial sensors.
* Processing of spatial and environmental datasets.
* Competence with ArcGIS or QGIS.
* Risk and hazard analysis and developing mitigation strategies.
* Processing large data using programming skills (python, C, C++, C sharp, R).
* Utilising parallel and distributed computing resources, including cloud platforms (AWS, Google and/or Azure).
* Developing image processing workflows that could be deployed from workstations to cloud computing.
* Managing data archiving, software version control, and metadata records.
* Implementing statistical, physical and process models that report on environmental processes, such as vegetation growth, biomass accumulation and dynamics, fire hazard and intensity.

The role will also require:

* Significant contributions to the interpretation and communication of scientific research and technological results. This may include collaborating on presentations and written reports for, clients and the scientific and/or technology community, representing CSIRO externally, including in public forums, with industry or the research sector or with Government.
* Under general direction, participate in planning projects and accept responsibility for the scheduling and completion of major project activities, including allocating and directing tasks where appropriate.
* Provide coaching, on-the-job training and instruction to colleagues, on activities pertaining to the immediate work area. Supervision and other management responsibilities.
* Adapt and/or develop original experimental methods/equipment/software/concepts/ ideas in support of existing and future research, promptly addressing where current methods are undefined, and initiative is required in seeking new approaches to meet evolving experimental and/or technological needs.
* 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 perform 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 Making Safety Personal goals.
* Other duties as directed.

## **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.*

* A recent Bachelor’s or Master’s Degree and/or equivalent experience in Science, Engineering, IT or a related field.
* A good understanding of the use and role of remote sensing and spatial data in multi-disciplinary projects that report on environmental processes.
* Experience in computer programming or scripting languages for automating workflows or the processing of geospatial data, learn and adapt to computing platforms (e.g. workstation, distributed, GPU computing) and programming languages (e.g. Python, R, C++, JavaScript) as required, and experience with software version control.
* Strong quantitative skills and a demonstrated ability to process, analyse and interpret large and complex datasets.
* Sound written and oral communication skills, including the production of scientific reports.
* Working collaboratively within a team environment.

## **Desirable:**

* Established knowledge and understanding of bushfire processes, risk analysis and mitigation.
* Development of apps for web and mobile devices, predominantly focussing on the visualisation and analysis of spatial data.
* Ability to articulate complex scientific concepts, as demonstrated by experience in the generation of technical reports or peer-reviewed journals articles.
* Experience developing automated workflows and custom tools using geographic information systems (GIS). Experience with ArcGIS and/or QGIS.
* There may be occasional travel required in the role and therefore it is preferred for you to possess a driver’s licence to operate a vehicle.

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. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

The successful applicant may be required to undertake fieldwork in locations around Australia for periods of up to two weeks, several times a year.

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• People First

• Further Together

• Making it Real

• Trusted

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