## Position Description

## Research Projects – CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Soil Database Manager/Developer |
| Job Reference | 99710 |
| Tenure and Work Schedule | Specified Term of 4 years  Full-time |
| Salary Range | AU$114,219 – AU$123,605 per annum (pro-rata for part-time) plus 15.4% superannuation |
| Location(s) and Office Arrangements | Black Mountain, Canberra, ACT  *Hybrid working available.* |
| 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 who hold a valid work visa for the duration of the specified term |
| Position reports to the | Team Leader – Soil Monitoring and Information |
| Client Focus – Internal | 90% |
| Client Focus – External | 10% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Linda Gregory via email at [linda.gregory@csiro.au](mailto:linda.gregory@csiro.au) |
| Support and Workplace Adjustments | We offer a range of reasonable supports and workplace adjustments. Please let us know via email [vicki.ferrar@csiro.au](mailto:vicki.ferrar@csiro.au) – Vicki Ferrar, 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**  We encourage you to reach out if you require any support or 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](file:///C:/Users/lui008/OneDrive%20-%20CSIRO/Desktop/LIFE/LEADERSHIP/Inclusive%20Recruitment/PD%20and%20Job%20Ads/CSIRO.au) for more information.

**Role Overview**

The Soil Database Manager/Developer will play a key role in delivering and evolving CSIRO’s operational soil databases, which are hosted and stewarded under the **Australian National Soil Archive (ANSA)**. Under the guidance of the ANSA Lead, this role encompasses responsibility for the CSIRO NatSoil database and its associated collection schemas, the Soil Spectral Library, the specimen management environment, and soil data ingestion holding databases. These elements form the core infrastructure of the CSIRO Soil Information System (CSIS). The role will also lead the development and maintenance of data access points and APIs to enable seamless integration with the National Soil Monitoring Program (NSMP), the Australian National Soil Information System (ANSIS), research initiatives, and other internal CSIRO systems as required.

Working at the heart of our soil data ecosystem, the Soil Database Manager/Developer will collaborate closely with soil data specialists, CSIRO IM&T database administrators, data engineers, application developers, and other key stakeholders. A strong emphasis will be placed on the adoption of mature soil data standards, innovative interoperability solutions, and tools for monitoring, reporting, and governance—including user management and performance analytics.

As a member of the CSIRO Soil Monitoring and Information team, this role contributes to the design and implementation of modern data environments in a dynamic and evolving domain. The position supports collaboration across research, industry, and government, ensuring soil data is FAIR (Findable, Accessible, Interoperable, and Reusable), trusted, and fit-for-purpose to support long-term national outcomes.

This is a four-year position, with potential for extension or conversion to an ongoing role, subject to funding availability and alignment with strategic priorities.

**Duties and Key Result Areas**

* Lead the management and oversight of the database components within the CSIRO Soil Information System (CSIS) under the Australian National Soil Archive (ANSA), including schema maintenance, database performance and integrity, security protocols, backup and migration processes, monitoring, scheduled reporting, and the development and documentation of data management and access policies.
* Design, implement, evaluate, and document new database schemas to enhance data handling, quality control, and support for emerging soil data types. Apply innovative and interoperable data management approaches, such as Observations & Measurements (O&M), feature-based models, data fabrics, RDF/triple stores, and knowledge graphs.
* Coordinate the ingestion of new soil datasets—from curation and prioritisation to validation, upload, and registration of data management plans. Support data wranglers and other users through training, documentation, and promotion of best practices in soil data standards.
* Develop tools, queries, and database processes to support a full data lifecycle—from ingestion to delivery via APIs—in collaboration with software engineers and in support of key CSIS components, including the Australian National Soil Archive, the CSIRO National Soil Database (NatSoil), and field data systems.
* Continually investigate and apply new methods to enhance data interoperability, accessibility, and quality. Contribute to strategic planning and provide informed recommendations for the sustainable development of CSIS.
* Work collaboratively within a multi-disciplinary research team to undertake scientific investigations and associated activities, under the direction of senior scientists and engineers.
* Foster open, respectful, and effective communication with colleagues, clients, and partners, contributing to a collaborative culture and supporting CSIRO’s reputation for excellence.
* Collaborate across regionally dispersed teams and business units to support the delivery of CSIRO’s research and scientific objectives.
* Uphold CSIRO’s Code of Conduct and actively contribute to a safe, inclusive, and positive working environment in line with CSIRO’s Health, Safety and Environment (HSE) policies, Diversity and Inclusion initiatives, and Zero Harm commitments.

## **Selection Criteria**

#### Essential

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

1. Tertiary qualifications in Information Technology or a related field, or an equivalent combination of relevant experience and education.
2. Demonstrated experience in database development and administration, with a proven track record of managing and maintaining complex data systems.
3. Strong knowledge and practical experience in core aspects of database administration, including performance optimisation, data integrity, security, backup and recovery, and user access management.
4. Proficiency in a variety of data modelling and information management methodologies, including both traditional and modern approaches suited to interoperable and scalable systems.
5. Demonstrated ability to work effectively with specialist IT teams, fostering collaboration across disciplines to deliver integrated and functional system solutions.
6. A demonstrated commitment to health, safety, and wellbeing of staff, willing to challenge the status quo in pursuit of Zero Harm.

**Desirable**

1. Demonstrated knowledge and/or experience with current trends, emerging technologies, and best practices in database management systems (DBMS), including modern approaches to cloud-based and serverless data storage and management.
2. Practical experience with key development tools and technologies, including Microsoft SQL Server, C#, Visual Studio, ASP.NET, Web API, GitHub, OpenAPI, and Swagger, with the ability to apply these in a collaborative development environment.
3. Familiarity with soil databases and an understanding of Australian soils and landscapes, or a strong willingness and capacity to develop expertise in this domain.

**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 team 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:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **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:** 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 changes.

**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 ([vicki.ferrar@csiro.au](mailto:vicki.ferrar@csiro.au)) 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.