

# CSIRO Land and Water – Adelaide

## CSIRO Land and Water



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### Overview

CSIRO Land and Water and its partners seek to develop innovative solutions to Australia's land and water management challenges and to deliver options to policy makers and land managers that are economically viable, socially acceptable and environmentally sustainable.

In the pursuit of sustainable solutions based on systems understanding, we undertake rigorous biophysical research. At the same time, we recognise that to achieve viable outcomes our science needs to be strongly integrated with social and economic factors. Our researchers work in groundwater, rivers and floodplains, lakes and storages, estuaries and coastal lagoons—and on their surrounding landscapes. Our science spans spatial scales from paddock to catchment, and process scales from molecular to continental.

Water, its availability, quality and re-use, is at the core of our business. Water quantity and quality are strongly influenced by climate and interactions with landscapes. Consequently, our science focus includes the influence of soils, different land uses (both urban and agricultural) and land management practices on cycling and transport of water, nutrient, carbon, salt and other pollutants.

CSIRO Land and Water is one of the largest divisions in CSIRO, having more than 620 staff based in 10 locations around Australia.

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Campus, Australia's premier centre for agricultural research and natural resource sciences, the CSIRO Land and Water Adelaide Laboratory is collocated with a range of research partners that include:

- University of Adelaide
- South Australian Research and Development Institute (SARDI)
- Primary Industries and Resources SA (PIRSA)
- Centre for Natural Resource Management
- CSIRO Plant Industry
- CSIRO Mathematical and Information Sciences
- Australian Wine Research Institute (AWRI)
- CRC (Cooperative Research Centre) for Viticulture
- CRC for Molecular Plant Breeding
- CRC for Plant-based Management of Dryland Salinity
- CRC for Australian Weed Management
- CRC Irrigation Futures
- CRC Landscape Environments and Minerals Exploration
- Provisor
- BioInnovation SA
- Australian Grain Technologies (AGT)
- Australian Genome Research Facility (AGRF)
- Australian Centre for Plant Functional Genomics (ACPGF)

### Research capabilities

Major CSIRO Land and Water research programs based in Adelaide include:

#### Hydrology –

Broad capability for improving the quality of our land and water resources through solutions based on irrigation systems, groundwater and surface water hydrology and catchment hydrology.

#### Environmental Observation and Landscape Science –

Research based on environmental earth observations, soil and landscape science and environmental information systems.

### **Environmental Biogeochemistry –**

Science-based solutions to urban, industrial and regulatory environmental problems to ensure land and water contamination does not adversely affect human or environmental health.

### **Catchment and Aquatic Systems –**

Solving questions based on environmental flows and ecology, catchment and aquatic modelling and carbon and nutrient cycling.

### **Urban and Industrial Water –**

Provision of science-based solutions to the key components of modern water management – water use and reuse, environmental process engineering and urban water systems engineering – to underpin the management of water in Australia's metropolitan and industrial areas.

## **Research outputs**

CSIRO Land and Water's Adelaide researchers support the delivery of outcomes for many of the nation's major science challenges in a range of areas.

More than 70 per cent of CSIRO Land and Water's capability delivers results through the Water for a Healthy Country National Research Flagship.

CSIRO initiated the National Research Flagships to provide science-based solutions in response to Australia's major research challenges and opportunities. Nine Flagships form multidisciplinary teams with industry and the research community to deliver impact and benefits for Australia.

Land and Water researchers also deliver scientific outputs through CSIRO's Centre for Environmental Contaminants Research, Agricultural Sustainability Initiative, and through the other eight flagships.



> CSIRO Land and Water researcher Mark Raven loading samples for mineralogical analysis using x-ray diffraction

## **Testing and Services**

CSIRO Land and Water in Adelaide provides access to state-of-the-art testing and analytical services and facilities on a fee for service basis, including an extensive range of chemical analyses on plant, soil and water samples for inorganic nutrients, trace elements and heavy metals; Mid-Infrared Spectroscopy, XRF spectrometry; an Isotope Analysis Service; and Mineralogical Services.

### **For further information:**

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## **Your CSIRO**

Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.