Griffith UNIVERSITY

Australian Rivers Institute

Pioneering environmental research for rivers, coasts and catchments

Understanding how to sustain biodiversity and the essential goods and services that freshwater ecosystems provide in the face of changing climate and growing human need.

The Australian Rivers Institute - Global Solutions

The world faces significant and growing challenges in water management as a consequence of development, population growth and a changing climate. In response, significant effort is underway to find solutions to water quality and quantity problems.

The Australian Rivers Institute is supporting the work of government departments and research organisations throughout the world, through our expertise in environmental water management, river and coastal restoration, aquatic biodiversity and conservation and aquatic ecosystem health assessment.

To achieve our goals of understanding the aquatic ecosystem and delivering knowledge and advice to policy makers, we partner and collaborate with other globally recognised organisations and institutes to ensure we deliver best practice and robust adaptable solutions.

A world leader in research and education on rivers, coasts and catchments

The Australian Rivers Institute at Griffith University is a world leader in research and education on rivers, coasts and catchments. We undertake world-class science that improves our understanding of ecosystems in a collaborative environment that fosters the next generation of scientists.

It is our mission to provide the knowledge to support the sustainable use and conservation of the world's natural resources. We face a pressing challenge to meet human needs for water, food and energy without degrading river systems and the important goods and services they provide – including their rich biodiversity.

Core research themes

The Australian Rivers Institute's core research themes focus on a "source to sea" philosophy and include pioneering research to provide the knowledge to underpin the sustainable management of aquatic ecosystems. Our expertise encompasses six research themes:

Catchment and river ecosystem processes

Providing the knowledge and tools to predict and quantify how rivers and their catchments respond to changes in land-use and climate is vital for sustainable management. Our research quantifies the links between flow, physical habitat, nutrient and sediment loads, and aquatic ecosystem functions, such as primary production and energy flow through food webs.

Rehabilitation science and environmental flows

Satisfying the growing human demand for water without degrading aquatic ecosystems is a major challenge for society. This research program assists water resource managers to balance the competing needs of society and the protection of functional aquatic ecosystems.

Coastal and estuarine ecosystem processes

Coastal and estuarine ecosystems, the interface between marine and freshwater environments are increasingly fragile due to threats from human activities including urbanisation and modification to river courses and catchments. Our innovative research to understanding fundamental ecological, chemical and physical processes in these environments supports their sustainable use.

Aquatic biodiversity and conservation

Our Research quantifies the evolutionary and environmental determinants of spatial patterns in biodiversity and the results of this research can aid the prediction of consequences of fragmentation and other human impacts to aquatic ecosystems as well as recommending priorities for conservation and rehabilitation.

Aquatic ecosystem monitoring and assessment

This research can improve our understanding of patterns and processes in aquatic ecosystems and how they might be affected by human activities. The development and validation of cost-effective, efficient and accurate techniques for the assessment of water quality and aquatic ecosystems health is an essential component of this research.

Integration, modelling and catchment management

While millions of dollars are being spent worldwide restoring aquatic ecosystems, much of this work lacks a strong scientific foundation. This research theme draws on the information gathered through our other areas of research and integrates our environmental knowledge with social, cultural and economic values.

Interested?

We welcome your involvement. If you are interested in supporting research or students at the Australian Rivers Institute, there are ways you can get involved:

- Become a research partner
- Sponsor a specific research project
- Sponsor a Masters or PhD student

Contact

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Visit our website for more information about our research, facilities, latest news, events or joining our team:

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