

WATER RESILIENCE FOR A SUSTAINABLE FUTURE

As climate change intensifies water risks across the globe, sustainable water management and low carbon solutions are imperative to enhance water security and build resilient communities.

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Facing Water Security Risks in a Changing Climate

The world is tottering on the edge of an unprecedented water crisis, driven by the forces of climate change and escalating water stress, which is defined as the ratio of water demand to renewable supply.

According to the World Resource Institute (WRI), one-quarter of the world’s population is currently exposed to high water stress, and with predictions of more frequent extreme weather events such as droughts and flooding, these pressures are set to increase.

Water’s importance on a global scale is reflected in the Sustainable Development Goals (SDGs)—it is central to achieving all SDGs and is explicitly referred to in SDG 6 (clean water and sanitation). Beyond basic survival, water is essential for economic development and industry stability and security. Sustainable water management helps ensure agricultural production and food security, supports ecosystems, and reduces carbon emissions. However, its scarcity has profound implications not only for ecosystems but also for social equity. Low-income and marginalised groups bear the brunt of these challenges, impacting their ability to maintain good health, protect their families and earn a living. Tackling water-related challenges thus lays a strong foundation for sustainable development, which is ultimately a global commitment under the SDGs, as is keeping temperatures well below 2°C (as per the Paris Agreement).

Given the central role of water in all aspects of human and environmental systems, we must not only strengthen response and recovery efforts but also shift our focus towards adaptation and resilience. Resilience is not just about temporarily bouncing back after a crisis, it must address long-term strategic adaptation and planning to reduce rising water stress.

In the context of Australia, the driest inhabited continent on Earth, it is essential to implement fundamental behaviour changes in how water is accessed, managed, and used. In South-Eastern Australia, for example, multiple regions are already grappling with dwindling water availability (as seen in Figure 1), underscoring the urgency of sustainable water management.

Long-term adaptation measures must be adopted by large water users in water-intensive sectors like agriculture, manufacturing and mining. Strategies like the reuse and recycling of water can minimise water demand, encourage good practice throughout the industry, and meet stakeholder expectations.

Effective planning for adaptation and resilience is essential to ensuring long-term water security, especially as water sources and services come under increasing pressure. Lessons from recent droughts and floods highlight the need for smarter, more adaptive approaches to managing water resources, landscapes, and

service delivery. By making strategic, forward-looking decisions on water-related investments and infrastructure, we can build systems that are flexible and responsive to future uncertainties.

For those seeking a guide through the storms and droughts ahead, Cress is your forward-thinking ally equipped with the tools and expertise to identify risks and define actionable plans for resilience.

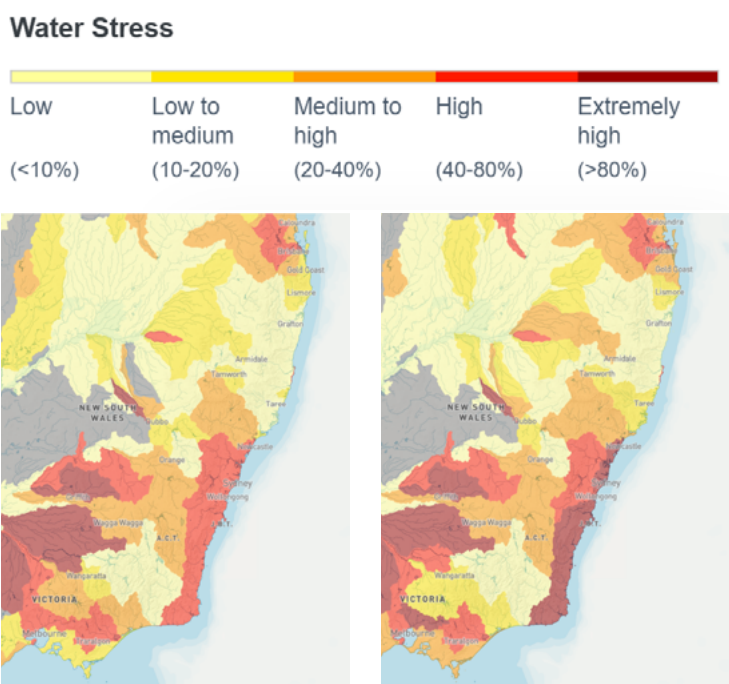
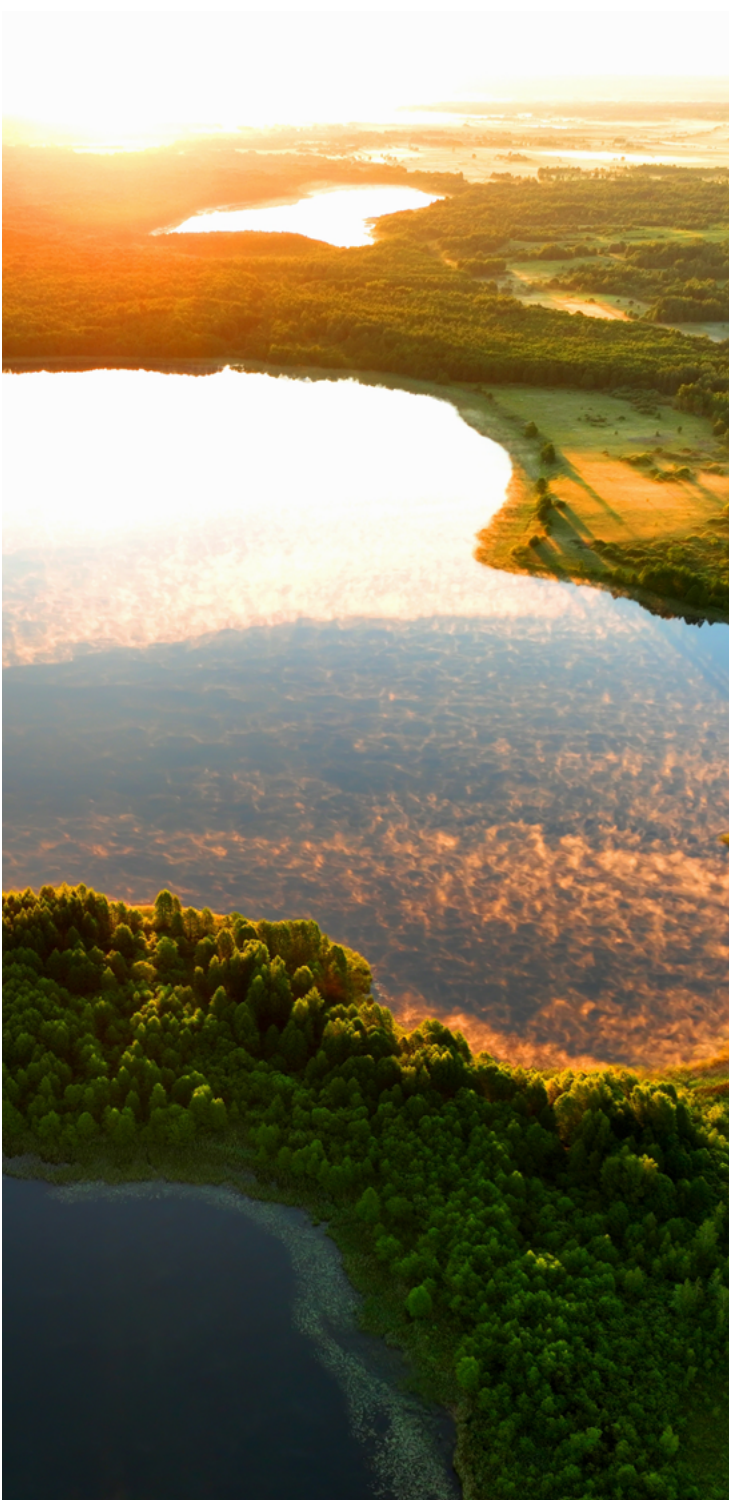


Fig 1. Water stress baseline (left) and future projections for a pessimistic scenario in 2030 (right) (WRI, 2023)



Water Stewardship Solutions for a Thirsty Planet

Water Stewardship - the concept of socially and culturally equitable, environmentally sustainable, and economically beneficial use of water - plays an important role in ensuring shared risks are addressed collectively. This approach encourages equitable access and environmentally sustainable use of water.

There are five key steps to drive water stewardship:

1. Gather and understand: Identify stakeholders and understand water use, risks, impacts and opportunities at a site and catchment level.
2. Commit and plan: Develop a water stewardship plan with actionable steps and clear responsibilities to improve water management.
3. Implement: Implement the plan and improve water impacts through targeted measures.
4. Evaluate: Evaluate actions taken and revise the plan for ongoing continuous improvement.
5. Communicate and disclose: Communicate water actions transparently and foster collaboration with stakeholders.

Together, these steps work to manage shared water challenges, deliver sustainable water outcomes at a site and catchment level, and support the UN’s Sustainable Development Goal 6: Water and Sanitation for all by 2030.

Adopting a water stewardship approach demonstrates a commitment to sustainable water management by addressing climate risks, strengthening stakeholder relationships, and improving local water quality, availability and governance. This can increase efficiency and create financial savings, while protecting socially and culturally significant water-related areas. It also enables your business to benchmark performance around water use and provides valuable information for investors and climate funds, ultimately supporting both environmental resilience and economic success.

At Cress, we are experienced water stewardship credentialled specialists. Get in touch with us today to take the first step towards more informed decision-making and planning both within your site boundaries and catchments of influence. By leveraging our expertise, your business can confidently address water-related challenges and ensure long-term sustainability in a world shaped by intensifying water challenges.

Decarbonisation in the Australian Water Sector

Few realise intuitively just how deeply the water sector is intertwined with the world's energy and carbon challenges.

The International Energy Agency in its World Energy Outlook (WEO) estimated in 2016 that the water sector's share of global electricity consumption, including the collecting and treating of wastewater, remains around 4% by 2040 - of which wastewater treatment represents roughly one-quarter. Additionally, some estimates have put the sector's share of total greenhouse gas emissions at 3%.

Amid surges in water demand, energy price volatility, and unpredictable climatic conditions, the water sector has an opportunity to take the lead in climate action. In Australia, the Victorian State Government is leading decarbonisation actions by committing its water sector to cut emissions to net zero by 2035, which if successful will become the first water sector in Australia to reach net zero emissions. We are also seeing an increase in the number of Australian water utilities adopting net zero targets by 2030 or 2040 latest, which require decarbonisation efforts in areas such as power consumption, biosolids treatment, transport and disposal, and fleet fuel use.

However, the net zero equation for the Australian water sector is made more complex with long-term challenges that remain. These relate to greenhouse gas emissions like methane and nitrous oxide that are not always captured and used in operations as well as inefficient legacy infrastructure.

Hydroflux achieves fourth consecutive year of Climate Active certification

Hydroflux continues to heed the call to action as a sustainability-driven organisation, achieving Climate Active Carbon Neutral Organisation recertification for the fourth consecutive year. Furthermore, a selected range of Hydroflux Industrial, Hydroflux Utilities, and Hydroflux EpcO products have achieved the Carbon Neutral Product certification for the second consecutive year. In collaboration with the Hydroflux group of entities, Cress assisted in the rigorous certification process by diligently identifying, quantifying and assessing the organisation's emission sources, as well as the selected products' embodied emissions from project management, sales, and design to the distribution to a customers' site.

Hydroflux's achievement gives at-a-glance proof to clients and stakeholders that the group is

committed to credible action in its operations and across selected products. Recognising that meaningful emissions reduction action takes time, the group continues to revise its goals and build on previous years' actions, including purchasing 100% renewable energy at the head office, implementing a waste management program to achieve zero waste to landfill by 2030, engaging with key local suppliers and communicating its commitment to the industry. These FY23-24 actions amount to a 27.31% reduction in electricity emissions by purchasing 100% renewable electricity and a diversion of 16 kg of coffee pods, 16 kg of coffee cups, 36 kg of aluminium cans, 187 kg cardboard, 106 kg paper, and 27 kg uniforms from landfill in Sutherland offices by recycling. Reduction actions taken by Hydroflux are an important step to reach carbon neutrality and reduce reliance on carbon offsets.

Understanding your carbon emissions and the most significant sources allows you to make informed decisions, allocate resources and future-proof your operations. At Cress, we can assist your business in determining a decarbonisation pathway that is relevant to the industry's context, needs and priorities, and is measurable with time-bound objectives to help your business communicate performance to stakeholders.



United to Save Our Glaciers on World Water Day 2025

World Water Day is held on 22 March every year. This year, the United Nations urged young people, adults, families, community groups, organisations, institutions and Governments to take action on glacier preservation as part of the 2025 theme.

The key messages for World Water Day 2025 are:

1. Rising global temperatures are **accelerating glacier melt** bringing far-reaching consequences for billions of people.
2. Glacial retreat **threatens devastation** by triggering floods, droughts, landslides, and rising seas that threaten lives and critical ecosystems.
3. Saving our glaciers is a **survival strategy** for people and the planet. There is still time to work together to reduce greenhouse gas emissions and manage meltwater more sustainably.

Cress Consulting and the Hydroflux group acknowledges that no matter where we live, glaciers are critical to our water future.

Long-term sustainability depends on all of us working together. Cress is committed to raising awareness and inspiring action to protect earth's most vital resource. We help clients, industries, and communities to use water more efficiently, safeguarding our valuable resources and shaping a better, more sustainable future.



What We Offer

Cress Consulting offers comprehensive expertise, experience and advice in sustainability, water, climate, and carbon.

Together, we support our clients to:

- Identify climate and risks to operations, assets, supply chain, people, and community.
- Measure carbon emissions and identify opportunities to reduce emissions and reach net zero.
- Improve social, economic and environmentally sustainable water management.
- Develop sustainability strategies, action plans and prepare reporting disclosures.

Request a call with one of our team members to learn more.



Cress has the expertise to help identify pathways to a more sustainable, secure future and can help you design and implement strategies to reduce risk and increase self-reliance. As a Group, our sustainability, risk and water specialists are supported by more than 100 engineers and scientists across the world.

Providing expert guidance, we identify sustainability risks in your business, uncovering opportunities for sustainable growth, resource efficiency and water security so you are well informed to make decisions and find ways to maintain profitability and growth in a changing and increasingly challenging environment.

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