2022–2023 research program planning

ONE BASIN CRC

ONE BASIN: FOUR CHALLENGES

Step 1: Partners identify four challenges (August–December 2022)

Industry partners pinpoint the challenges of most importance to them. These form the foundation of work in the One Basin CRC.

Step 2: Twenty-four focus areas are agreed (January–April 2023)

Partners define twenty-four focus areas which will address the four challenges. They are selected via interviews, brainstorming sessions and workshops, and each partner chooses the specific focus areas they will work on.

Step 3: Project co-design begins (May 2023 onwards)

Focus area teams, led by an industry chair and a research lead, co-design specific research projects.

Our attention is on participatory decision-making, end user focus and learning from each other.

Step 4: Projects are launched (late 2023)

Research projects kick off in late-2023, aligning with partner strengths and industry need. Researchers, partners and students will work together. Much of this work will be based in our four regional hubs: Loxton, Mildura, Griffith and Goondiwindi.

ABOUT THE ONE BASIN CRC

Through the One Basin CRC, the Murray–Darling Basin's researchers, agriculture sector, water agencies and regional communities have joined forces to collaboratively solve shared water challenges in the basin.

We are currently developing our research program for the next few years, which will advance us on our purpose to grow value from water in a changing world.

We are made up of 85 different organisations, working together to find ways to make better use of water, for agriculture, people and the environment.

Consistent with the One Basin CRC's commitment to an industry-led program, our research is directed by industry, government and community partners.

Need more information?

To find out more, including how to:

- read our detailed challenge program operational plans
- get in touch with focus area leads
- find out how project co-design is progressing
- become involved in a project or join the CRC.

email admin@onebasin.com.au
or visit **www.onebasin.com.au**

Australian Government
Department of Industry, Science and Resources

AusIndustry
Cooperative Research Centres Program

VISION:

AUSTRALIA'S IRRIGATION REGIONS ARE THE MOST PRODUCTIVE, RESILIENT AND SUSTAINABLE IN THE WORLD

ONE BASIN CRC

BUILDING CAPACITY TO RESPOND TO CLIMATE CHANGE TOGETHER

CHALLENGE 1: Co-develop, demonstrate and scale the tools and processes for partners and communities to confront climate change projections of a hotter, more variable future and co-design transition options that support productive, resilient and sustainable regions.

Proposed Research

- SECURITY: Building community water security foresight capability
- DELIVERY: Stress testing integrated water delivery operations
- TRANSFORM: Anticipating transformation for communities, agriculture and the environment
- ECOSYSTEM: Building community understanding of healthy waterways in the face of climate change
- INVESTMENT: Opportunities to mobilise investment for climate change adaptation and build resilience through community wealth
- FIRST NATIONS: Supporting First Nations-led research to address climate change
- LEADERSHIP: Understanding future leadership needs

REALISING VALUE FROM DIGITAL TECHNOLOGIES TO SUPPORT THE IRRIGATED AGRICULTURE SECTOR

CHALLENGE 2: Enhance the value and adoption of digital technologies on farm and across the value chain to enable end-users to capture value from those technologies and boost profitability, sustainability and resilience of their businesses.

Proposed Research

- ADOPTION: Identify pathways to define and implement effective digital solutions
- VALIDATION and SCALING: Protocols and pilots to demonstrate application from whole farm to basin scale
- DIGITAL SYSTEMS FRAMEWORK: Value chain approach with co-benefits (agriculture, environment, community)
- EDUCATION AND TRAINING: What skills are needed across stakeholders within the Basin that will enhance development, implementation and support of next generation digital technologies
- SUSTAINABLE SOLUTIONS: Framework for determining the financial viability of different technologies and/or a suite of integrated technologies in various regions and at multiple scales
- SHARING: Frameworks, protocols and knowledge systems to connect people, data and models

ENHANCING WATER SUPPLY SYSTEM TO DELIVER FOR MULTIPLE USES

CHALLENGE 3: Develop water infrastructure policy, design and operation options that allow water supply operators to increase the capacity of their water supplies to meet multiple water uses.

Proposed Research

- ALTERNATE WATER: Increasing access to alternative water sources for industries and communities
- WATER BANKING: Water banking to enhance drought resilience
- UNACCOUNTED WATER: Loss minimisation and the management of unaccounted water
- PUMPED SYSTEMS: Interventions to improve pumped water systems
- MULTIPLE BENEFITS: Enhancing information systems to support multiple productive, environmental, and cultural benefits
- INTEGRATED OPERATIONS: Integrated operational management of water delivery operations

REALISING VALUE FROM AND WITHIN RURAL INDUSTRIES AND COMMUNITIES

CHALLENGE 4: Increasing value from the implementation of sustainable, resilient and inclusive strategies and innovations, through development of innovation knowledge and networks, market awareness, design, access and development and strengthening social licenses.

Proposed Research

- ADAPTATION and TRANSITION of agricultural and environmental systems and rural communities
- VALUING First Nations knowledge in Basin science and management
- INCENTIVES for the sustainable management of Basin resources
- EVALUATING the impacts of policies and programs on people, economy and environmental condition
- Approaches to GOVERNANCE, engagement and collaboration to support management and care of the Basin

June 2023