

Catchment Yield Science Update

FACT SHEET – January 2025

Climate change is expected to change the amount of water making its way into our river systems (yield), the timing of when water is available and when it is needed.

Catchment yield estimates are used to determine a sustainable volume of water that can be extracted from our rivers for a range of uses including town water and irrigation. We currently use climate projections (predictions of future climate conditions) based on climate science from 2007 to calculate estimates of catchment yield. The Catchment Yield Science Update Project will update our surface water models with new future climate datasets along with climate variability information to make sure that the allocation of water remains sustainable.

Key points

- Current climate change information used in catchment yield modelling in Tasmania is now several years old.
- There is a need to update the catchment yield modelling to better inform water management.
- The first phase of the project developed a pathway to access and incorporate updated climate projections data into our surface water models.
- The next phase will develop data on climate variability for Tasmania, source suitable updated climate projections data and update our models to produce new estimates of yield.
- This project will provide important scientific information that will help us manage our rivers.

How are we updating our yield estimates?

Through the first phase of this project, we developed a pathway to update our yield estimates. This Phase 1 work showed that what we have experienced in the past 100 or so years (where we have records of our climate) may not fully capture the extremes of climate variability, e.g. extreme dry periods such as drought.

Palaeoclimate data (historical data derived from natural records like tree rings and ice cores representing the climate at a particular time in the past) can provide us with useful information about important periods of extended dry (or wet) conditions. Using palaeoclimate data alongside current observations helps us understand future climate extremes more effectively.

This data will be used with new Tasmania specific climate projections data in our surface water models to provide new yield estimates that will then be used to assess application for water licences and allocations for all users.

What are the benefits of the project?

- Improved estimates of catchment yield under future climate conditions, to ensure sustainable water use for communities, agriculture and the environment.
- Improved understanding of the variability of our climate and the duration of extreme wet and dry periods.
- Continued sustainable allocation of water resources, backed by the latest science.

Timeline

2022-2023

- Development of a pathway for updating hydrological models with new climate science.

2024-2026

- Climate variability research
- Update models

2026-2027

- Incorporate new climate data
- Develop new yield estimates
- Create new Water Allocation Tool

This project is being delivered under Tasmania's Rural Water Use Strategy and is jointly funded by the Tasmanian Government and Australian Government through the National Water Grid Fund.



Australian Government



National Water Grid®



Photograph by Scott Hardie, NRE Tas.

More information

Learn more about this project – www.nre.tas.gov.au/water/water-legislation-policies-and-strategies/rural-water-use-strategy/activities-underway/catchment-yield-science-update

Read more about the Rural Water Use Strategy – www.nre.tas.gov.au/rural-water

Agriculture and Water

Department of Natural Resources and Environment Tasmania

Phone: 1300 368 550

Email: water.enquiries@nre.tas.gov.au

Visit: www.nre.tas.gov.au/water



Tasmanian Government