



The National Hydrological Modelling Platform Adoption and Implementation 2012-18 – Summary

The National Hydrological Modelling Strategy and Platform

The National Hydrological Modelling Strategy (NHMS), is a Council of Australian Governments' (COAG, 2008) initiative to ensure Australia's capacity to build, maintain and use hydrological modelling tools. The COAG reaffirmed its commitment by endorsing an updated NHMS in August 2018.

Hydrological modelling plays an important role in managing Australia's scarce water supplies, helping water managers answer questions like:

- How much water is there?
- Where is the water?
- How does it change over time or space?
- What happens if we do X or change Y?
- How can we best share the water?

The NHMS seeks to modernise and enhance the functionality of Australia's water modelling tools. To ensure they reflect contemporary water management approaches, like environmental water and water trade and can adapt to meet future needs. A key feature of the NHMS is the commitment to a nationally consistent approach to hydrological modelling through the development of a National Hydrological Modelling Platform (NHMP).

The national platform is Source (Source Integrated Modelling System). Source is the culmination of more than 25 years of research, development and collaboration by governments, water authorities, private industry and Australia's leading hydrologic and ecological scientists. Source was initially developed through the Cooperative Research Centres for Freshwater Ecology and the Catchment Hydrology, which were merged to become the eWater CRC in 2005.

In 2012, the eWater CRC ended and eWater was created as a not-for-profit, Government-owned enterprise to support the development and adoption of Source and other water management tools developed by the CRCs.

Australian Governments (both states and federal) have supported the ongoing development and adoption of Source during 2012-2018 through two funding agreements with eWater, with a total investment of \$11 million. This report highlights the achievements of NHMP over this period.

Source adoption and implementation 2012-18

Through the NHMP funding agreements, there has been significant progress in the development and adoption of Source. There are just over 3 100 users of Source in Australia and at least 80 Source models completed or in development.

Source models are used to support a range of water management needs, including water resource assessment, planning and management, water quality, use of environmental water and management of urban water supplies. Key achievements include:

- Western Australia adopting Source state-wide for water resource planning.
- Development of planning and operational models for the River Murray System (which comprises New South Wales Murray, Victorian Murray, South Australian Murray and the lower Darling rivers).
- A joint Border Rivers model prepared by New South Wales and Queensland.
- An integrated Source model for the Goulburn, Broken, Campaspe, Coliban and Loddon (GBCCL) system in Victoria.
- Modelling water supply networks in urban areas.
- The use of Source by the Queensland government to support the implementation of the Paddock to Reef - Reef Water Quality Protection Plan.
- Management of catchment farm dams and floodplains in South Australia.

Notwithstanding this success, progressive implementation of Source remains an ongoing activity for many of Australia's jurisdictions. As the capability of Source is extended further to realise the objectives of the NHMS and ever-evolving water system modelling requirements, further research and implementation activities will be required.