**Workshop reporting**

**1st Australia and New Zealand Water Quality Modelling Symposium**

7-10 April 2024, Queenstown, NZ.

**Workshop Topic**

2.3 Developing and improving data-sharing platforms

**Vision** *What does success look like? What are the outcomes?*

1. A data-sharing platform will be made available to share data with CARE (collective benefit, authority to control, responsibility, ethics) and in a FAIR (findable, accessible, interoperable, reusable) manner, to an easily understandable way to serve a range of end-users.
2. In addition, the platform will not only share data for water quality, but also hydrology and catchment characteristics, encompassing both observations and modelled results, as these are necessary to inform a more holistic system view of how water management and catchment processes impact water quality.

**Scope and Issues** *Discuss and capture the boundaries and known barriers*

Barriers:

* Funding, time commitment, resourcing
* Ownership and maintenance of platform over long term
* IP and data rights
* Inconsistency between different data sources and types of data
* No clear lead organization in developing this platform
* Duplication and institutional resistance to shift platform
* Data access protocols/bureaucracy
* Fragmentation of datasets (e.g., historical data, local councils’ data, private data)
* Lack of acknowledgement to data owner/collector in publications and reports
* No clear way for cross-institutional collaboration in developing this platform
* Different expectation on platform across different modellers/groups
* Different ways between Australia/New Zealand in data collection
* Modellers to communicate with data platform developers

**Short, medium and long term goals** *Can we identify logical steps to make progress?*

Long-term goal: To establish/foster establishing a data sharing platform with our (WQ modellers) desired attributes.

Mid-term goal: Influence the development of and existing/emerging platform with modellers’ recommendations.

**Prioritisation of goals** *Do we need to prioritise goals?*

We focus on the ‘desirable features’ of our future data-sharing platform. We started with a longer list and assessed each against needs (must have/should have/nice to have) for WQ modellers.

Only the ‘must have’ features were retained as below:

Data exploration

1. Search function, overview and summaries attached to data to help user find and screen data/information
2. Spatial selection, screening/querying before downloading and analysing

Accessibility

1. Accessible through API and other code based access
2. Ability to download multiple datasets in one go (batch download)
3. Prompt update of database, time stamped and version control
4. Acknowledgement and attribution to data owner/collector/custodian in publications and reports

Data standardisation and quality control (water quality and relevant catchment data)

1. Consistent units and below detection
2. Consistent quality codes
3. Consistent data formatting
4. Contaminant speciation
5. Selectable metadata and consistent metadata that is easily available and understandable
6. Permissions and access use for data that may be confidential/sensitive e.g., point source, fertilisation/stocking rates

**Identify key actions to achieve the priority goals**

*\*actions are group into short- and long-term ones, including an action plan*

**Short-term actions:**

1. NOW: Establish a location we can share work (Google Drive Okay)
2. No later than Nov 2025: Draft a recommendation document for our future data-sharing platform, including:
   1. A review of existing guidance/criteria for developing data-sharing platform – e.g., USGS portal (Danlu & Jason to start)
   2. Identifying existing/emerging platforms in AUS/NZ and processes that can be used to develop/manage them i.e., who we are trying to influence (Working Group to contribute)
   3. Desirable features and recommendation of the future data-sharing platform, and demonstration/discussion of potential benefits (Working Group to contribute)
3. After finishing #2: Influence the future development of emerging platforms with our guideline document developed in #2 (e.g., a presentation to our own network, MSSANZ and other relevant groups)
4. Intermediate comms within working group, with at least:
5. Update meeting in between #2.1 and 2.2 is helpful
6. Meeting after finishing #2 to discuss the dissemination plan.

**Long-term actions:**

*\* if we have successfully influenced other platform development*

1. Identify a representative of our working group to have continuous inputs into platform developer

*\* if no other groups are developing the platform we want, then consider doing it ourselves:*

1. Start with compiling discrete data -> and then continuous (more complicated QA/QC issues)
2. Rivers, streams data -> Lakes, estuary, groundwater data
3. Water quality data first -> catchment spatial data
4. Identify existing governance & funding -> explore platform ownership & governance (which organisation hosts it, what group(s) lead it, who pays for it)

**Prioritisation of actions** *Can we prioritise actions?*

As above – prioritised into short- and long-term

**Implementation plan** *Responsibilities, funding, timeline, how organising (what, who, when)*

As above