



Australian Government

Bureau of Meteorology

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Water Data Ingest & Publication Capability

Version 1.0 September 11th, 2018

1 Water Data Ingest and Publication Capability

Introduction

Water security is a major challenge facing Australia. The need to accurately monitor, assess and forecast the availability, condition and use of water resources is vital. The Bureau of Meteorology, Australia's national weather and climate agency, also has responsibility for compiling and disseminating comprehensive water information across Australia.

The Bureau's water information function is supported by the Regulations under the Water Act 2007 which set out the detailed requirements such as who must provide water information to the Bureau and the time and format in which it must be given. The Regulations individually name over 200 organisations that are required to give the Bureau specified water information that is in their possession, custody or control.

Water data acquired by the Bureau are used to support a number of public products including National Water Accounts, the groundwater information suite, seasonal streamflow forecasts and the water storages application, to name only a few.

In addition to supporting Bureau water information products data are also made available to the public under an open licence through data delivery channels such as Water Data Online and the National Ground Water Information System

Document purpose

This document provides a high-level overview of the Bureau's water data ingest and publication capability framed around the following water data parameters:

1. Groundwater
2. Surface water
3. Water quality
4. Urban water

Acronyms

- API Application Programming Interface
- AWRA Australian Water Resources Assessment
- AWRIS Australian Water Resources Information System
- FTP File transfer protocol
- NGIS National Groundwater Information System
- Regs [Water Regulation Categories of information](#)
- SOS2 Sensor Observation Service

2 Groundwater

The Bureau of Meteorology over the last ten years had developed the ability to ingest and disseminate a variety of water data parameters. The table below summarises the details regarding format and frequency of ingestion, databases where data is hosted and how to access data externally. **Contact:** Elisabetta.Carrara@bom.gov.au

Parameter	Regs	Format - Depending on category of person	Frequency of ingest	Database	Preferred Delivery	External Access	Notes
Groundwater level	2a	Water Data Transfer Format or other formats (e.g. CSV)	monthly	AWRIS Gw postgres	FTP Data connect*	Groundwater Explorer API*	Refer to Bureau website 2b (groundwater pressure) would be transformed into 2a by data providers
Geochemistry	NA	Geoscience Australia data model and vocabulary	Ad-hoc	Gw postgres	Webservices Data connect*	Groundwater Explorer API*	http://services.ga.gov.au/
State NGIS information (including bore location, bore construction/lithology/hydrostratigraphy logs)	2e	ESRI File Geodatabase or CSV files	yearly	NGIS postgres	FTP Data connect*	NGIS and Groundwater Explorer and API*	Refer to NGIS schema diagram and NGIS data dictionary
GDE data	NA	File geodatabase or CSV	Ad-hoc	Gw postgres	FTP Data connect*	GDE Atlas API*	GDE data model to be provided
Licensed and otherwise groundwater extraction	5f and 5g	CSV (preferred, but other formats allowed)	yearly	Gw postgres	FTP Data connect*	Groundwater Insight	Cat 5 data requirements
Groundwater licence to extract, allocation announcements and permits to extract	6a,d,f	CSV or other formats	annual (or on announcement)	Gw postgres AWRIS	FTP Data connect*	Water markets*, Groundwater Insight	Cat 6 data format requirements

* Capability under development

3 Surface Water

The Bureau of Meteorology over the last ten years had developed the ability to ingest and disseminate a variety of water data parameters. The table below summarises the details regarding format and frequency of ingestion, databases where data are hosted and how to access data externally. **Contacts:** Todd.Lovell@bom.gov.au, Mattew.Walker@bom.gov.au

Parameter	Regs	Format - Depending on category of person	Frequency of ingest	Database	Preferred Delivery	External Access	Notes
Surface water level	1a	Water Data Transfer Format or other formats (e.g. CSV)	Daily	AWRIS	FTP	Water Data Online	Only valid WDTF data is ingested
						API (SOS2)	Refer to SOS2 Guide for access
Surface water discharge	1b	Water Data Transfer Format or other formats (e.g. CSV)	Daily	AWRIS	FTP	Water Data Online	Only valid WDTF data is ingested
						API (SOS2)	Refer to SOS2 Guide for access
Licensed and otherwise surface water take	5a-d	CSV (preferred, but other formats allowed)	yearly	In development	FTP DataConnect*	Regional Water Information	Cat 5 data requirements
Surface water license to extract, allocation announcements and permits to extract	6a, 6d, 6g	CSV or other formats	yearly (or on announcement)	AWRIS	FTP DataConnect*	Water markets*	Cat 6 data format requirements

* Capability under development

4 Water Quality

The Bureau of Meteorology over the last ten years had developed the ability to ingest and disseminate a variety of water data parameters. The table below summarises the details regarding format and frequency of ingestion, databases where data are hosted and how to access data externally. **Contacts:** Todd.Lovell@bom.gov.au

Parameter	Regs	Format - Depending on category of person	Frequency of ingest	Database	Preferred Delivery	External Access	Notes
Surface water electrical conductivity	9a	Water Data Transfer Format or other formats	Daily	AWRIS	FTP	Water Data Online / API SOS2	Ingest of continuous not discreet samples
Groundwater salinity	9b	Water Data Transfer Format or other formats (e.g. CSV)	yearly	AWRIS Gw postgres	FTP Data connect*	Groundwater Explorer API*	Refer to Bureau website Cat 9b data requirements
Surface water suspended solids	9c	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	API SOS2	Ingest of continuous not discreet samples
Surface water turbidity	9d	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	Water Data Online / API SOS2	Ingest of continuous not discreet samples
Surface water total phosphorus concentration	9e	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	API SOS2	Ingest of continuous not discreet samples
Surface water total nitrogen concentration	9f	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	API SOS2	Ingest of continuous not discreet samples
Surface water pH	9g	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	Water Data Online / API SOS2	Ingest of continuous not discreet samples
Groundwater pH	9ga	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	API SOS2	Ingest of continuous not discreet samples
Surface water temperature	9h	Water Data Transfer Format or other formats	yearly	AWRIS	FTP	Water Data Online / API SOS2	Ingest of continuous not discreet samples

5 Urban Water

The Bureau of Meteorology over the last ten years had developed the ability to ingest and disseminate a variety of water data parameters. The table below summarises the details regarding format and frequency of ingestion, databases where data is hosted and how to access data externally. **Contact:** Katrina.Annan@bom.gov.au

Parameter	Regs	Format - Depending on category of person	Frequency of ingest	Database	Preferred Delivery	External Access	Notes
Water Storage Information	3a, 3b, 3c, 3d, 3da, 3e, 3f,	Water Data Transfer Format or other format	Daily 3f - Annual	AWRIS	FTP	Water Information Dashboard	
						National Water Account	
						AWRA models	
						Regional Water information	
						Water Data Online / API SOS2	
Urban Water Information	7a, 7b, 7c, 7d	Urban Water Reporting Database	Annually	Urban Water	Urban Water Reporting Database	National Water Account	
						National Performance Report	
Water Restrictions	8a	Urban Water Database	As update is required with a change of water restriction	Urban Water	Urban Water Database	Water Restrictions website	
Climate Resilient Water Source – Desalination and Water Recycling	NA	CSV	Ad-Hoc	Server	Direct update of Urban Water Database*	Climate resilient water sources Website	
National Performance Reporting metrics	NA	Urban Water Reporting Database	Annually	Urban Water	Urban Water Reporting Database	Urban National Performance Report	Some indicators reported for the Urban NPR that are not covered by the Category 7 reporting (e.g. pricing, customer, environment).

6 Further information

Further information regarding the Bureau's water data capability is available at

<http://www.bom.gov.au/water/>

Or by contacting:

waterdata@bom.gov.au



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