Flow-MER Metabolism Oxygen Logger data

Dataset name	Flow-MER metabolism oxygen logger data 2014-2023
Dataset citation	CEWH Flow-MER (2023) Metabolism oxygen logger data. Flow-MER Program. Commonwealth Environmental Water Holder, Australian Government Department of Climate Change, Energy, the Environment and Water. Sourced from https://data.gov.au/data/dataset/flow-mer-oxygen-logger on [date-sourced].
Description	Dissolved oxygen in the water column is a primary input into the calculation of metabolism and respiration (refer Metabolism BASE Model dataset). Data loggers are deployed at multiple locations in the rivers of each of the Flow-MER Area-scale project to measure continuously at 10 minute intervals: • Light • Water temperature • Dissolve oxygen • Atmospheric pressure The data record aims to be continuous over the summer water management period, however there are breaks in the data record due to high water levels preventing data retrieval and equipment losses. There is generally at least one data logger deployed near locations where fish are also sampled. The CEWH's Flow-MER program examines the contribution of Commonwealth environmental water to the environmental objectives of the Basin Plan 2012 (Basin Plan) and is assisting the CEWH to demonstrate environmental outcomes and adaptively manage the water holdings. Monitoring and evaluation is focused in seven Selected Areas: the Junction of the Warrego and Darling rivers, Gwydir river system, Lachlan river system, Murrumbidgee river system, Edward/Kolety-Wakool river system, Goulburn River and Lower Murray River. This Flow-MER data set includes and extends the long-term data collected at the same sites during the Long Term Intervention Monitoring (LTIM) project (2014-2019). References to the metabolism methods using these oxygen data: Grace MR, Giling DP, Hladyz S, Caron V, Thompson RM, Mac Nally R (2015) Fast processing of diel oxygen curves: estimating stream metabolism with BASE (BAyesian Single-station Estimation). Limnology & Oceanography: Methods, 13, 103-114 Song C, Dodds WK, Trentman MT, Rüegg J, Ballantyne F (2016) Methods of approximation influence aquatic ecosystem metabolism estimates. Limnology and Oceanography: Methods 14(9), 557–569.
Currency	**Date from:** 1/7/2014
	Date to: 30/6/2023
Spatial domain	**Jurisdiction/Location:** Murray-Darling Basin
	Geographic extent: -24.586 138.568 152.489 -37.682
	Coordinate system: GDA1994, EPSG 4283
Dataset status	**Progress:** Ongoing
	Maintenance and update frequency: Annually within the life of the Flow-MER project

Attributes	Attribute Name	Description	Data Type

	Program	The name of the Flow-MER Selected Area in which the data were collected	text
	samplePoint	Name of the sampling site along a river within which the samples are located	text
	Description	Optional description of the SamplePoint	text
	Latitude	Decimal degrees	number
	Longitude	Decimal degrees	number
	sampleDate	Unique date-time stamp that is used to identify each data record	dateTime
	logDate	The date component of the sampleDate for each record as dd/mm/yyyy	date
	logTime	The time component of the sampleDate for each record in 24H:mm:ss format	time
	light	Light levels (lux)	number
	temperature (C)	Water temperature in Celcius	number
	dissolvedOxygen	Dissolved oxygen concentration (mg/l)	number
	atmosPressure	Atmospheric pressure (either logged or obtained from the Bureau of Meteorology	number
	EvaluationCode	E1 = data collection by category 1 or 2 standard method AND processed as required for Basin evaluation. E2 = data collection by category 1 or 2 standard method AND processed for using non-standard method for selected area evaluation E3 = data collection and processing using selected area specific methods (category 3)	text
	Comments	Optional comment to aid interpretation of each data record for the sampleDate time stamp.	text
Data quality	**Lineage:** Exported from the MDMS on completion of each year or when updated (most recent 19/12/2023)		
	Positional accuracy: Locations accurate to 4 decimals but actual monitoring data collected at these locations can be up to 1km from the nominated point		
	Attribute accuracy: Direct export from the MDMS without further processing		
	Logical consistency: Sample point names are unique within the program		
	Completeness: Complete export from the MDMS		
Access and License	**Published Data Landing Page:** https://data.gov.au/data/dataset/6f16bf84-e6dc-440d-bd2f-40d126b84f27		
	Distribution format: CSV tabular data		
	Access constraints: Creative Commons license CC BY-SA 4.0 Attribution-ShareAlike 4.0 International). https://creativecommons.org/licenses/by-sa/4.0/ Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. redistribute the material in any medium or format must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.		
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Contributors	Flow-MER project – all Selected Area teams		

	Flow-MER program acknowledge the First Nations peoples as the Traditional Owners and Custodians of the lands, waterways and skies of the Murray-Darling Basin. We respect their continuing connection to culture and Country, and we thank them for their knowledge and science and the values reflected in these data.
Custodian	Commonwealth Environmental Water Holder (CEWH), Department of Climate Change, Energy, the Environment and Water
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Maintainer	Flow-MER Basin scale project Shane Brooks (Flow-MER data manager) https://brooks.eco/contact
Metadata information	**Metadata date:** 6/10/2024