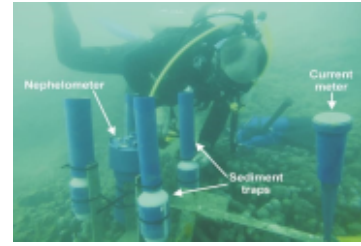


Water quality logger time series data 2016 to 2018 Cleveland Bay, Halifax Bay and Dunk Island (NESP TWQ 2.1.5, JCU)



[Metadata](#) | [Metadata \(XML\)](#)

Title	Water quality logger time series data 2016 to 2018 Cleveland Bay, Halifax Bay and Dunk Island (NESP TWQ 2.1.5, JCU)
Date	2019-05-20
Date type	Publication

Abstract

This dataset documents the spatial and temporal variability of resuspension events and sediment dynamics at seven Great Barrier Reef Lagoon inshore locations using continuous logger data (10 min sampling intervals) over 2 ½ years and analysed the quantity of sediment collected in newly designed sediment traps. The dataset highlights the influence of river discharge events on sediment dynamics across these locations.

*This dataset is under an embargo period until the end of the project extension

Methods:

Nephelometers were sourced from the Marine Geophysics Laboratory, James Cook University. Prior to deployment each instrument is calibrated using the laboratory's standard procedure where calibrations for turbidity (to normalise readings for standardisation across all instruments), pressure and light are performed. The instruments were deployed for periods spanning from 2 to 5 months at sever inshore locations. On retrieval the data from each instrument are downloaded and pasted into a spreadsheet where the calibrations (prior to deployment) are applied to showcase the time series of the data.

Site calibrations of benthic sediment to instrument normalised turbidity readings are applied to convert the NTU turbidity measurements to suspended sediment concentrations (SSC). This spreadsheet is used to also remove spurious data from the time series that have been due to instrument fouling, malfunction or obstruction. In some cases the instrument was flooded or lost and so no data are available for that deployment period. In other cases, the measurement of one or more of the parameters was not recorded by the instrument and so only the reliable data have been plotted. The current meter (Marotte) was also sourced from the Marine Geophysics Laboratory, James Cook University and downloaded using their software.

We note that the turbidity, wave pressure and light data provided have been thoroughly checked for QA/QC procedures. However, the temperate and current meter data have not been thoroughly checked and there will be instances where the data from these instruments are spurious. We caution against using these data unless a thorough QA/QC process is implemented. In some cases, on longer deployments the earlier data were overwritten on the nephelometer and so these data have been lost.

Format:

The data are provided as Microsoft Excel files (a separate file for each site). Due to the limit of the number of rows permitted by Excel, the time series data have been spread across 3 worksheets for each file.

Data Dictionary:

TIMESERIES.XLSX for each location

TIMESTAMP: date and time of measurement at 10 minute frequency [DD/MM/YYYY Hour:Minute]

NEPHELOMETER DATA

NTUe: turbidity measurements in units in filter effluent (NTUe)

SSC: (mg.L-1) – suspended sediment concentrations converted from NTUe measurements

LIGHT (uE/cm2):measure of light per 10 minute sensor reading

DEPTH: of instrument from surface (m)

RMS: measure of wave pressure

TEMP: (degrees C) of water

CURRENT METER DATA

speed (m/s)

heading (degrees CW from North)

speed upper (m/s)

speed lower (m/s)

tilt (radians)

direction (radians CCW from East)

batt (volts)

temp (Celsius)

References:

Lewis, S., Bainbridge, Z. Stevens, T. Garzon-Garcia, A. Chen, C. Burton, J. Bahadori, M. Rezaei Rashti, M. Gorman, J. Smithers, S. Olley, J. Moody, P. Dehayr, R. (2018) Sediment tracing from the catchment to reef: preliminary results from 2018 flood plume case studies, logger and sediment trap time series and an overview of project progress. Report to the National Environmental Science Programme. Reef and Rainforest Research Centre Limited, Cairns.

Data Location:

This dataset is filed in the eAtlas enduring data repository at: \data\2016-18-NESP-TWQ-2\2.1.5_Origin-detrimental-sediment

Metadata language	eng
Character set	UTF8
Hierarchy level	Dataset

OnLine resource

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Linkage	https://eatlas.org.au/nesp-twq-2/origin-detrimental-sediment-2-1-5
Protocol	WWW:LINK-1.0-http--related

Point of contact

Individual name	Lewis, Stephen, Dr
Organisation name	Australian Institute of Marine ScCentre for Tropical Water and Aquatic Ecosystem Research, James Cook Universityience (AIMS)
Role	Point of contact
Topic category	Biota

Extent

Description	Great Barrier Reef, Australia
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File identifier	164667f7-f998-4c3e-882b-8f0810d6a907
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Metadata language	eng
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Character set	UTF8
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Metadata author

Individual name	eAtlas Data Manager
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Organisation name	Australian Institute of Marine Science (AIMS)
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Role	metadataContact
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Date stamp	2020-11-19T08:23:06
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