

Metadata for *Hydrodynamic drivers of fine-scale connectivity within a coral reef atoll*

Grimaldi et al., 2022; *Limnology and Oceanography*

General information

Title of dataset	Hydrodynamic drivers of fine-scale connectivity within a coral reef atoll
URL of dataset	10.5281/zenodo.6866015
Abstract	This study uses numerical modeling to study hydrodynamic drivers of fine-scale connectivity within a coral reef atoll off the North West Shelf of Australia.
Keywords	Coral reef, Connectivity, Atoll, Hydrodynamics, Wave- and tide-dominated, Northwestern Australia
Lead author for the dataset	Camille Grimaldi
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Organization associated with the data	University of Western Australia
License	This data is publicly available and free to use.
Geographic location – verbal	Mermaid Reef off the North West Shelf of Australia.

description	
Temporal coverage	NA
Methods description	Please refer to the methods description in the manuscript.

Description of files included in the dataset:

Dataset filename	Dataset description
CAWCR_WaveConditions_1980_2020.mat	mat-file with the wave conditions: direction (dir), significant wave height (hs) and period (tp) extracted from CAWCR at Mermaid Reef from 1980 to 2020 during coral spawning (both in March and October).
TPXO_TideConditions_1980_2020.mat	mat-file with the water levels extracted from TPXO8.0 at Mermaid Reef from 1980 to 2020 during coral spawning.
Model_output_MeanConditions.mat	mat-file with the hydrodynamic model output of current velocities (uu and vv), particle locations (partx and party) and time for typical hydrodynamic conditions, tide-only and wave-only simulations.
Model_output_TropCyclones.mat	mat-file with the hydrodynamic model output of current velocities (uu and vv), particle locations (partx and party) and time for tropical cyclone simulations.