Dataset name: **Mezooplankton and micronekton C and N stable isotopes**

|  |  |
| --- | --- |
| Parameters: | * **15N per size class and/or individual species** * **13C per size class and/or individual species** * **organic carbon content per size class and/or individual species** * **organic nitrogen content per size class and/or individual species** * **C/N ratios per size class and/or individual species** |

PROJECT TITLE: **MOBYDICK**

Oceanographic cruise: **MOBYDICK**

Start date: **18/02/2018**

End date: **27/03/2018**

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**Observatoire Océanologique de Banyuls sur mer**

**66650 Banyuls sur mer, France**

Geographic information: **Indian sector of the Southern Ocean**

Latitude: **49.5°S – 52.5°S**

Longitude: **67,0°E – 74.5°E**

Parameter supervisor: **Brian Hunt**

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# OPERATIONS

## Sampling device(s)

Samples were collected from the underway system (surface seawater), vertical zooplankton net tows (WP2 and WP3), and mesopelagic trawl tows.

## List of stations sampled

Zooplankton nets: M1, M2\_1, M2\_2, M2\_3, M3\_1, M3\_2, M4\_1, M4\_2.

Midwater trawls: M1, M2\_1, M2\_2, M2\_3, M3\_1, M3\_2, M3\_3, M4\_1, M4\_2.

# INSTRUMENTS

Instrument Type: Plankton nets WP2 and WP3

Manufacturer: General Oceanics

Model:TBD

Instrument Features / Calibration: N/A

Instrument Type: Pelagic trawl

Manufacturer: Le Drezen

Model: Mesopelagos

Instrument Features / Calibration: N/A

Instrument Type: Mass spectrometer (DELTAplus Advatage Isotope Ratio Mass Spectrometer)

Manufacturer: Thermo Scientific

Model:TBD

Instrument Features / Calibration: N/A

# DESCRIPTION of PARAMETERS

## Measurement details

Surface seawater was samples every 8 hours during transit between La Réunion and Kerguelen. Approximately 2L of water was filtered onto 25mm pre-combusted GF/F filters by vacuum filtration. The samples were oven dried for 24 hours at 50oC. Zooplankton net samples were size fractionated using 125, 250, 500, 1000, 2000 and 4000 µm sieves from the WP2 net, and using 1000, 2000 and 4000 µm sieves from the WP3 net. Size fractions < 4000 µm were filtered onto pre–weighed Whatman GF/F filters. Zooplankton from the 4000 µm size fraction were separated to species level and grouped into logarithmic size bins. All zooplankton samples were subsequently oven dried for 24-48 hours at 50oC. Macrozooplankton and micronekton were sampled from the midwater trawls with the aim to have representation of major taxa and size classes from al trawls. In the case of smaller animals (< 50 mm) the entire animal was collected. In the case of larger animals a tissue sample (~ 20 mg) was collected. All samples were oven dried for 24-48 hours at 50oC. Dried samples were returned to UBC.

## Analytical procedure

Dry samples will be weighed and then homogenized in the lab using a mortar and pestle. Dry samples will then be treated to remove fats and carbonates, re-dried, and 1mm sample weighed into tin cups for isotope analysis. Isotope analysis will be performed at a commercial facility (UC-Davis).

## Units

* 15N (‰)
* 13C (‰)
* organic carbon content (g)
* organic nitrogen content (g)
* C/N ratios

## Sensor precision

TBD

## Post-cruise data analysis/treatment required

Fat and carbonate removal

## Estimated Date of Delivery

Entire samples will first be weighed – completion 15 July 2018.

Fat and carbonate removal – completion 15 August 2018.

Sample packaging – 1 September 2018

Isotope analysis – 15 December 2018

# BIBLIOGRAPHY

TBD