Dataset name: **Particulate silica**

|  |  |
| --- | --- |
| Parameters: | * **Biogenic silica concentration**
* **Lithogenic silica concentration**
 |

PROJECT TITLE: **MOBYDICK**

Oceanographic cruise: **MOBYDICK**

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

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

Project manager: **Bernard Quéguiner** bernard.queguiner@mio.osupytheas.fr

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Address: **Laboratoire d’Océanographie Microbienne**

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

 Latitude: **49.5°S – 52.5°S**

 Longitude: **67,0°E – 74.5°E**

Parameter supervisor: **Karine Leblanc**

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# OPERATIONS

## Sampling device(s)

Samples were taken from rosette bottles (11 depths) during CTD\_Stock casts and from bottle net deployment.

## List of stations sampled

**Table 1 : Sampling operations for particulate silica**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Station ID** | **Type of operation** | **Cast ID** | **Rosette bottle water** | **Rosette bottle-net** |
| M2\_1 | CTD\_Stock | CTD\_007 | 11 depths | 100-450 m |
| M4\_1 | CTD\_Stock | CTD\_013 | 11 depths | 125-150 m |
| M3 | CTD\_Stock | CTD\_023 | 11 depths | 125-500 m |
| M2\_2 | CTD\_Stock | CTD\_030 | 11 depths | 125-450 m |
| M1 | CTD\_Stock | CTD\_038 | 11 depths | 125-500 m |
| M4\_2 | CTD\_Stock | CTD\_042 | 11 depths | 248-500 m |
| M2\_3 | CTD\_Stock | CTD\_053 | 11 depths | 125-375 m |
| M3\_3 | CTD\_Stock | CTD\_062 | 11 depths | 125-500 m |

# INSTRUMENTS

Instrument Type: **Spectrophotometer**

Manufacturer: **Helios**

Model: **Helios gamma**

Instrument Features / Calibration: **N/A**

Instrument Type: **Spectrofluorometer**

Manufacturer: **Shimadzu**

Model: **RF–5301**

Instrument Features / Calibration: **N/A**

# DESCRIPTION of PARAMETERS

## Measurement details

For rosette samples, between 1.5 and 2L seawater were sampled and filtered onto 0.6 μm polycarbonate filters. Samples were stored folded in 4 in Eppendorf vials and dried overnight at 60°C. Closed Eppendorf vials were then stored at room temperature until analysis.

For bottle net samples, after cod end sample volume measurement, 10 mL samples were filtered onto 0.6 μm polycarbonate filters and then stored as above in Eppendorf vials until analysis.

## Analytical procedure

Filters will be analyzed for biogenic (BSi) and lithogenic (LSi) silica following the triple extraction procedure described by Ragueneau *et al.* (2005), including parallel particulate aluminum measurements in order to correct for LSi/BSi interference.

## Units

* biogenic silica concentration µmol L–1
* lithogenic silica concentration µmol L–1

## Sensor precision

N/A

## Post-cruise data analysis/treatment required

N/A

## Estimated Date of Delivery

December 2018

# BIBLIOGRAPHY

Ragueneau O., Savoye N., Del Amo Y., Cotten J., Tardiveau B., Leynaert A., 2005. A new method for the measurement of biogenic silica in suspended matter of coastal waters: using Si:Al ratios to correct for the mineral interference. *Continental Shelf Research*, **25**(5), 697-710.