

FICHE META_INFORMATION_PARAMETRES

(à remplir par le responsable du paramètre)

Nom du DATASET / Data SET NAME

Data set Name (list of the measured parameters):

The **Self Contained Autonomous MicroProfiler (SCAMP)** is a portable instrument designed to measure small scale (order 1mm) absolute values and fluctuations of temperature, down to 100m depth. The data can be used to infer the levels of dissipation of turbulent kinetic energy, in-situ diffusive fluxes of heat, salt, nutrients or other quantities, and the microstructure behaviour of these parameters.

Measured parameters:

- temperature
- temperature gradient

Inferred parameters:

- rate of dissipation of turbulent kinetic energy
- diapycnal diffusivity K_z - can be used to calculate vertical diffusive fluxes of a tracer such as nutrients (flux= K_z times the vertical gradient of the respective quantity)

PROJET-ETUDE / PROJECT TITLE

Campaign NAME : GreenEdge – ICECAMP – 2016

Date begin : 23rd June 2013

Date end : 23rd June 2013

Team Responsible: Anda Vladoiu, Dany Dumont

Address: L'OCEAN, 4 Place Jussieu, 75005 Paris, France

OPERATION (*if Relevant*)

Sampling method : the SCAMP was deployed from inside the camp tent, performing vertical profiles up to 100m depth

Station number-Cast number : see section 5

Operation code : SCAMP

RESPONSABLE SCIENTIFIQUE du paramètre / *PI of the parameter*

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DATASET contact

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INFORMATION GEOGRAPHIQUES / GEOGRAPHIC INFORMATION

Predefined site (if relevant): Polarhaven tent

Location: Polarhaven tent

LATITUDE: 67.48 N

LONGITUDE: 063.79 W

DESCRIPTION DES INSTRUMENTS / INSTRUMENTS DESCRIPTION (if Relevant)

Instrument Type: Self Contained Autonomous MicroProfiler (SCAMP)

Manufacturer: Precision Measurement Engineering, Inc.

Model:

Instrument Features / Calibration:

FAST TEMPERATURE SENSOR

The fast temperature channel consists of the 5316 Fast Temperature sensor and associated circuitry. These circuits are located on the 5264 uDO & Dual T circuit board. The 5316 Fast Temperature sensor consists of a fast thermistor and a compensating resistor. The fast thermistor is a Thermometrics FP07DB104N.

DESCRIPTION DES PARAMETRES / PARAMETERS DESCRIPTION

Ce qui a été collecté, mesuré et comment / How was the parameter collected and measured (include references for analytical methods)?

Sampling: The SCAMP is lowered through the hole in the Polarhaven. acquiring data at a frequency of 100Hz, down to 100m depth. The SCAMP is used in downward mode, free falling through the water column

at roughly 10cm/s. The SCAMP measures small scale temperature fluctuations.

Analytical procedure : (briefly, could be a short recall to a published reference):

The dissipation rate of turbulent kinetic energy ε was obtained from fitting the theoretical Batchelor spectrum to the SCAMP inferred microstructure temperature gradient spectrum using the modified maximum likelihood method of Ruddick et al. (2000), implemented in the SCAMP MATLAB PROCESSING AND DISPLAY SOFTWARE (P/N 5530), over segments of 1 m depth. More details concerning the method can be found in Cuypers et al. (2012).

The diapycnal diffusivity K_z was parameterised as a function of turbulence intensity Re_b for different turbulence regimes (Bouffard and Boegman, 2013).

Units:

- rate of dissipation of turbulent kinetic energy (epsilon) $W\ kg^{-1}$
- diapycnal diffusivity $K_z\ m^2\ s^{-1}$

Sensor Precision:

Décrire quels types de données sont nécessaires pour vous compléter votre propre jeu de données **avant** envoi à la base de données, et estimer le délai avant la disponibilité de vos données pour la base de données / *Post-cruise data analysis/treatment required, and the time frame for this*

Estimated Date of Delivery :

REFERENCES BIBLIOGRAPHIQUES
