FICHE META\_INFORMATION\_PARAMETRES

(à remplir par le responsable du paramètre)

#### 

### Nom du DATASET / Data SET NAME

*Data set Name :* Trichodesmium incubation -- Dissolved Phosphorus Processing & Signaling Molecule Characterization

### PROJET-ETUDE / *PROJECT TITLE* & Chefs de projet et mission / PIs

*Campaign NAME* : OUTPACE *LEG :*

*Date* *begin : 18/02/2015*

*Date end : 03/04/2015*

*Chief Scientist*: Andreas Krupke & Benjamin A.S. Van Mooy

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*Chief Mission*: Thierry Moutin

*Address : M.I.O. Institut Méditerranéen d’Océanologie - UMR 7294   
OSU Institut Pythéas , Campus de Luminy, Bâtiment Méditerranée   
13288 MARSEILLE cedex 09, France*

### ECHANTILLONNAGE ET OPERATIONS A LA MER / SAMPLING METHOD AND OPERATIONS AT SEA

*Sampling method : Rosette, Net tows*

*Station number-Cast number :*

|  |  |
| --- | --- |
| Station Number | Sampled Cast Number |
| *SD-01* | *OUT-003* |
| *SD-02* | OUT-008 |
| SD-03 | OUT-018 |
| LD-A-D1 | OUT-025 |
| LD-A-D2 | OUT-033 |
| LD-A-D3 | OUT-040 |
| LD-A-D4 | OUT- |
| LD-A-D5 | OUT- |
| SD-04 | OUT-068 |
| SD-05 | OUT-072 |
| SD-06 | OUT- |
| SD-07 | OUT-081 |
| SD-08 | OUT-084 |
| SD-09 | OUT-088 |
| SD-10 | OUT-092 |
| SD-11 | OUT-096 |
| SD-12 | OUT-102 |
| LD-B-D1 | OUT-107 |
| LD-B-D2 | OUT-115 |
| LD-B-D3 | OUT-125 |
| LD-B-D4 | OUT-134 |
| LD-B-D5 | OUT-143 & 150 |
| SD-13 | - |
| LD-C-D1 | Underwater sampling |
| LD-C-D2 | Underwater sampling |
| LD-C-D3 | OUT-174 |
| LD-C-D4 | OUT-182 |
| LD-C-D5 | OUT-198 |
| SD-14 | OUT-208 |
| SD-15 | OUT-211 |

*Operation code :*???

### RESPONSABLE SCIENTIFIQUE du paramètre / *PI of the parameter*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nom / *name* | adresse /*address* | téléphone /*phone number* | fax /*fax number* | adresse mél /*email address* |
| **Van Mooy** | Woods Hole Oceanographic Institution (WHOI), Marine Chemistry and Geochemistry Department (Van Mooy Laboratory), 266 Woods Hole Road, Woods Hole, MA, 02543, USA | +01 508-289-2322 |  | bvanmooy@whoi.edu |

Remarque / Remark : Pour la pérennité de la base de données, il est fortement suggéré que le responsable scientifique ait un poste permanent / For the perinity of the database, it is recommended that the PI of the parameter has a permanent position.

### Contact Base de données pour ce paramètre / DATASET contact for this parameter

Remarque / Remark : Pour la pérennité de la base de données, il est fortement suggéré que le contact base de donnée ait un poste permanent / For the perinity of the database, it is recommended that the dataset contact for this parameter has a permanent position.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nom / *name* | adresse /*address* | téléphone / *phone number* | fax /*fax number* | adresse mél /*email address* |
| **Van Mooy** | Woods Hole Oceanographic Institution (WHOI), Marine Chemistry and Geochemistry Department (Van Mooy Laboratory), 266 Woods Hole Road, Woods Hole, MA, 02543, USA | +01 508-289-2322 |  | bvanmooy@whoi.edu |

### Autre(s) participant(s) à la mesure de ce paramètre / Other participant(s) for the measurement of this parameter

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nom / *name* | adresse /*address* | téléphone / *phone number* | role | adresse mél /*email address* |
| **Krupke** | Woods Hole Oceanographic Institution (WHOI), Marine Chemistry and Geochemistry Department (Van Mooy Laboratory), 266 Woods Hole Road, Woods Hole, MA, 02543, USA | +01 508-289-3720 | 33PO4 Uptake  1. 33PO4 2. fractionation  SignalingMoleculeCharacterizatin PO4 nutrient concentration (MAGIC) | akrupke@whoi.edu |
|  |  |  |  |  |
|  |  |  |  |  |

### INFORMATION GEOGRAPHIQUES */ GEOGRAPHIC INFORMATION*

*Predefined site (if relevant):*

*Location: South Pacific Ocean*

*LATITUDE: S 17° - S 23°*

*LONGITUDE: E 159° – W 149°*

### DESCRIPTION DES INSTRUMENTS / INSTRUMENTS DESCRIPTION

*Instrument Type: Not applicable*

*Manufacturer: Not applicable*

*Model: Not applicable*

*Instrument Features / Calibration:Not applicable*

### 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: Rosette & Net tows*

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

Collect seawater samples for incubations from Niskin bottles. Dispense subsamples for incubations from the Niskin bottle directly into triplicate acid-cleaned 30 mL polycarbonate bottles. Spike incubation bottles with approximately 1.5 µCi of 33P-phosphate. Add signaling molecules (e.g. AHLs) and Trichodesmium colonies, which were prior collected with a net tow. Cap bottles and gently invert to mix. Incubate samples in flow-through on-deck incubator for 1 to 12 hours.

Measure PO4 uptake rates:

Terminate incubation by vacuum (approximately 200 mbar) filtration on 25 mm diameter polycarbonate membranes (Millipore). 33P-labeled microbial biomass will be retained on the membrane. Measure 33PO4 uptake rates by placing the filter in a 20mL SCL vial and adding 10 mL UltimaGold scintillation cocktail. Use a scintillation counter (Perkin-Elrmer) to determine radioactivity.

Characterize signaling molecules:

Terminate incubation by vacuum (approximately 200 mbar) filtration through solid phase extraction cartridges. Follow XXX to extract signaling molecules and measure it with a ESI-MS/MS following Li et al. 2006.

Measure PO4 nutrient concentrations:

Collect parallel 50 mL water samples and following the MAGIC protocol (Thomson‐Bulldis and Karl 1998).

*Units:*

*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 : Last Trimester 2015* (or to be determined)

### REFERENCES BIBLIOGRAPHIQUES

Thomson‐Bulldis, Angie, and David Karl. "Application of a novel method for phosphorus determinations in the oligotrophic North Pacific Ocean." *Limnology and Oceanography* 43.7 (1998): 1565-1577.

Li X, Fekete A, Englmann M, Götz C, Rothballer M, Frommberger M et al (2006). Development and application of a method for the analysis of N-acylhomoserine lactones by solid-phase extraction and ultra high pressure liquid chromatography. Journal of Chromatography A 1134: 186-193.