# 60FICHE META\_INFORMATION\_PARAMETRES

(à remplir par le responsable du paramètre)

### Nom du DATASET / Data SET NAME

*AMOP\_PTSOx\_DIC\_pH\_pCO2\_OmegaA*

Pressure in Water Column [db]

Temperature [degC]

Salinity [psu]

Oxygen [~$m~#mol/kg]

Total Dissolved Inorganic Carbon [[~$m~#mol/kg] (DIC)

pH

pH (P,T,DIC,pH)

pCO2 (P,T,DIC,pH)

OmegaA (P,T,DIC,pH)

### PROJET-ETUDE / *PROJECT TITLE*

*Campaign NAME*: AMOP *LEG: 1*

*Date* *begin: January 26th, 2014*

*Date end: February 22nd, 2014*

*Chief Scientist*: Aurélien PAULMIER, Boris DEWITTE, Véronique GARCON

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*Chief Mission*: Christophe MAES

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### OPERATION *(if Relevant)*

*Sampling method:* Niskin bottles-rosette. *sampling in borosilicate bottles at stations*

*Station number-Cast number:*

*101,207,301:100:2701, 2803, 2901:100:3601 (36 stations))*

*Operation code:*

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nom / *name* | adresse /*address* | téléphone / *phone number* | fax /*fax number* | adresse mél /*email address* |
| Jose Martin Hernandez Ayon | Carretera Tijuana-Ensenada No. 3918 Fraccionamiento Zona Playitas Ensenada, Baja California, Mexico, CP 22860 | -52-646-1750500 ext 24260 |  | jmartin@uabc.edu.mx |

### DATASET contact

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nom / *name* | adresse /*address* | téléphone / *phone number* | fax /*fax number* | adresse mél /*email address* |
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### INFORMATION GEOGRAPHIQUES */ GEOGRAPHIC INFORMATION*

*Predefined site (if relevant):* Oxygen Minimum Zone (OMZ)

*Location:* Off Peru

*LATITUDE:* 7°50’S-14°34’S

*LONGITUDE:* 77°16’W-81°41’W

### DESCRIPTION DES INSTRUMENTS / INSTRUMENTS DESCRIPTION *(if Relevant)*

*Instrument Type:*

*Manufacturer:*

***Model:***

*Instrument Features / Calibration:*

### 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:* Water samples for DIC analysis were collected in 250-ml sodium borosilicate bottles and preserved with 50 µL of HgCl2 saturated solution. For pH analysis, the samples were collected directly from the Niskin bottles using 60-ml syringes. All samples were analyzed aboard the ship

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

For DIC analysis, a LI-7000 gas analyzer (CO2/H2O, LICOR, Lincoln, NE, USA) was used. The certificate reference material for DIC analysis was provided by the laboratory of Dr. Andrew Dickson of Scripps Institution of Oceanography (Dickson et al., 2003). The relative difference averaged ±2 µmol kg-1 (0.2% error).

The pH was measured using a glass electrode at 25 oC on the seawater scale (pHsw) as described by Chapa-Balcorta et al. (2015). We use the program CO2SYS (Lewis and Wallace, 1998) and DIC-pHsw to calculate pCO2, *in situ* pHsw, and the aragonite saturation state (ΩArg). We use the constants proposed by Mehrbach et al. (1973) for these calculations. The uncertainty obtained for *in situ* pHsw, ΩArg, andpCO2 **was** ± 0.04 ± 0.2, and 56 µatm, respectively. The **pCO2** variability range observed in Peruvian waters was 25-fold greater than the error.

*Units:* µmol L-1(µM)

*Sensor Precision:* Correlation coefficients (r2) for measured peaks of POC and PON versus weight of standard was >0.99. The r2 for POS was 0.83 and had the highest coefficient of variation of GFF filter blanks (59%).

time\_ISO8601 [YYYY-MM-DDTH:MM:SS]

Longitude [degrees\_east]

Latitude [degrees\_north]

Pressure in Water Column [db]

Temperature [degC]

Salinity [psu]

Oxygen [~$m~#mol/kg]

Total Dissolved Inorganic Carbon [[~$m~#mol/kg] (DIC)

pH25

pHInsitu (P,T,DIC,pH)

pCO2 (P,T,DIC,pH)

Omega A (P,T,DIC,pH)

Bottle Depth [db]

Bottom Depth [m] (station maximum depth)

# 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

Chapa-Balcorta, C., J. M. Hernandez-Ayon, R. Durazo, E. Beier, S. R. Alin, and A. López-Pérez (2015). Influence of post-Tehuano oceanographic processes in the dynamics of the CO2 system in the Gulf of Tehuantepec, Mexico, *Journal of Geophysical Research: Oceans*, *120*(12), 7752-7770.

Dickson, A. G., Afghan, J. D., and Anderson, G. C. (2003). Reference materials for oceanic CO2 analysis: a method for the certification of total alkalinity. Mar. Chem. 80, 185–197. doi: 10.1016/S0304-4203(02)00133-130.

Mehrbach, C., Culberson, C. H., Hawley, J. E., and Pytkowicz, R. M., (1973). Measurement of the apparent dissociation constants of carbonic acid in seawater at atmospheric pressure. *Limnol. Oceanogr*. 18, 897–907, 1973.