

PRESENTATION OF THE DRAFT « TOWARDS GOOD PRACTICES IN BIO- ARGO FLOAT DEPLOYMENT AND MANAGEMENT »

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Outline

1. Introduction : Why?
2. Steps of the good practice (Draft of document)
(Ex with float : ProvBio. Sensor : Cholorphyll a)
 1. Predeployment -> Hardware
 2. Predeployment -> Software
 3. Deployment
 4. Post-deployment
3. Conclusion: What's next ?

1. Introduction : Why?

-As they are new users Eaims (Europe), GMMC (French), MedArgo, ... for Bio-Argo floats we propose a sequence of "good practice" prior to and at the deployment to manage the float, the metadata and to guaranty that every important information is acquired and stored for a proper data management.

-Here I present the draft of a document that could be distributed to any group or person that become a Bio-Argo float user.

2. Steps of the good practice (Draft of document)

Predeployment -> Hardware

Exemple for florescence sensors :

Independent sensor qualification "with a master"

An intercalibration exercise can be organised.

Several sensors are set up on a testing bench next to a « gold » sensor.

Black measurement with the floats in salt water.

One of the issue of the sensors is to define correctly the dark value of the calibration equation.

2. Steps of the good practice (Draft of document)



These predeployment tests are useful in order to have an idea of the relevance of the manufacturer calibration compared to « real life » and to check whether the float and sensors are ready to work and then to be deployed.

*« Bio-Argo: qualification of sensors and evaluation of their factory calibrations. »
Euro Argo, 2013
Southampton, UK.*

2. Steps of the good practice (Draft of document)

Predeployment -> Software

Rudics account

In order to receive data from the float on a server, we have to set up a rudics account on our server, where the float can send its data.

Exemple in lov

A rudics account is for example : lovbio005b which is a concatenation of :

-3_letters_for_the_lab : lov

-3_letters_for_specificity : bio

-3_numbers_for_id (lov-bio-005)

-a letter (b)

This letter is incremented (from a to b, c, d ...) each time the float is collected and redeployed for a new mission or a new test

2. Steps of the good practice (Draft of document)

Predeployment -> Software

Metadata Collection

In order to be stored in the Argo GDAC database several files have to be documented.

One of this file is the metadata.nc file.

This file contains all the serial number of the float, sensors, manufacturer calibration equation ..

2. Steps of the good practice (Draft of document)

Predeployment -> Software

Tools for programming and control floats before expedition.

We would like a standard sensors and mission programming.

2. Steps of the good practice (Draft of document)

- Profile 0 to 2000m
- Surface every day at 12 GMT
- Drift at 1000m
- Ex: 4 zones for chlorophyll_a
 - 0 – 10m : 0.20m resolution
 - 10 – 250m : 1m resolution
 - 250 – 1000m : 10m resolution
 - 1000 - 2000m : 50m resolution

2. Steps of the good practice (Draft of document)

Deployment

- Control before loading the box into the boat by a “bio man”
- Before loading the box into the boat: explanation and training by a “bio man” of the person in charge of deploying the float.

2. Steps of the good practice (Draft of document)

Help of deployment : Tools Foat 2 Sms (F2S)

Subscribe to fresh news from your float !!!

Choose a float (If your float is not listed please contact schmechtig@obs-vlfr.fr)

- metbio001b, NAT_STG_xOA_metbio001b
- metbio002b, NAT_STG_xOA_metbio002b

What do you want ?

- 1/ Only info during his deployment
- 2/ All info during his life included 1/ and 3/ (no SMS option)
- 3/ Only info in case of recovering (End of Life mode)

Enter your email address

And/Or your phone number (Ex: 003366666666 for a French Cell)

OK

2. Steps of the good practice (Draft of document)

Deployed (help with F2S Float 2 Sms)

ProBioll

Deployment procedure: 11 easy steps

Fill up and send the deployment sheet

BEFORE DEPLOYMENT	
I heard the TYPICAL NOISES (described at the point 10. of Provor_BioArgo_deployment_remOcean.pdf)	yes / no /
DEPLOYMENT INFORMATION	
DEPLOY_MISSION (cruise_name)	
DEPLOY_SHIP (ship_name)	
DEPLOY_AVAILABLE_PROFILE_ID	
CTD or XBT available	yes / no /
Dissolved Oxygen available	yes / no /
Nitrates available	yes / no /
Radiometry available I1	yes / no /
Radiometry available I2	yes / no /
Radiometry available I3	yes / no /
Radiometry available PAR	yes / no /
Chlorophyll fluorescence available	yes / no /
CDOM fluorescence available	yes / no /
Backscattering available	yes / no /
Transmittance available	yes / no /
Magnet removal time (dd/mm/yyyy hh:mm UTC)	
DEPLOYMENT TIME (dd/mm/yyyy hh:mm UTC)	
Latitude (units)	
Longitude (units)	
Bathy (m)	

2. Steps of the good practice (Draft of document)

Post-deployment

Send new mission (M2F) if needed

MISSION	MONTH	PROGRAM	DAYS	PRESSURE
lovbio023b 1	ATS	10	1000	
lovbio023b 2	ATS	10	1000	
lovbio023b 3	ATS	5	1000	
lovbio023b 4	ATS	5	1000	
lovbio023b 5	ATS	5	1000	
lovbio023b 6	ATS	5	1000	
lovbio023b 7	ATS	5	1000	
lovbio023b 8	ATS	5	1000	
lovbio023b 9	ATS	5	1000	
lovbio023b 10	ATS	10	1000	
lovbio023b 11	ATS	10	1000	
lovbio023b 12	ATS	10	1000	

Month 1 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 2 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 3 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 4 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000
Month 5 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 6 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 7 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	
Month 8 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 9 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 10 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000	Month 11 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000
Month 12 QPM, 5, 1000, 400, 400, 400 QPM, 10, 1000, 400, 400, 400 ATS, 1, 1000			

Ok for the modification

2. Steps of the good practice (Draft of document)

Post-deployment

We already have 20 validated missions :

- One profile at noon
 - ▣ Surface every day, 2 days, 5 days or 10 days
- Four profiles : at sunrise, noon, sunset, noon (the next day)
 - ▣ Every 5 days or every 10 days
- 6 profiles a day every day
- Modification of the sampling (turn off the descent)
.... open but needs to be controlled

3. Conclusion: What's next ?

- The idea of this document is to make a new user comfortable with the specific procedure associated to Bio-Argo floats.
- Here tools and procedure for a provor were presented but they can be adapted for other types of float (a significant work to do)
- It is also a way to anticipate the need and requirement for DAC and ADMT