

Le nouveau flotteur biogéochimique : ProvBioll

Projet Equipex NAOS
Mai 2013, Villefranche sur mer

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Plan



1. History of bio floats
2. ProvBio2
3. Steps before deployment
4. Tools

1 / History of bio float (lov/ifremer)



□ 2003 -> 4 ProvBioA (2 bio-optical sensors)

□ 2008 -> 8 ProvBioB (3 bio-optical sensors)

-> 4 ProvBioB Ver2

□ 2009 -> 2 ProNuts (1 nitrate sensor)

-> **Projet Bio-Argo -> ProvBio2**
(remOcean / NAOS WP3)



No major bug



New version

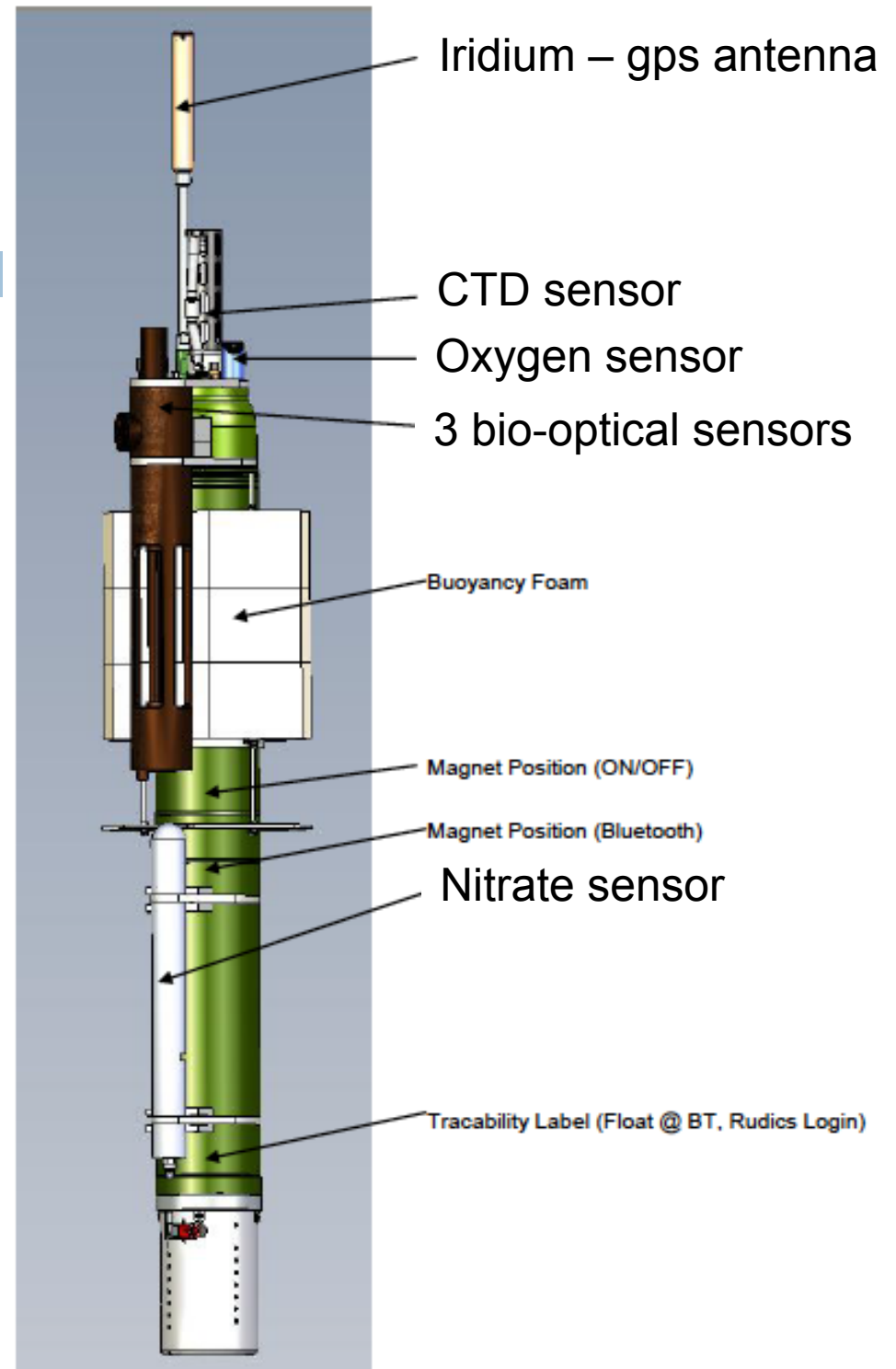
2/ProvBio2

- RUDICS communication
- Double board
- Up to 10 profiles per cycle
- 5 zone resolution per sensors

More than 500 parameters



customizable mission



2/ProvBio2



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

2/ProvBio2



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)

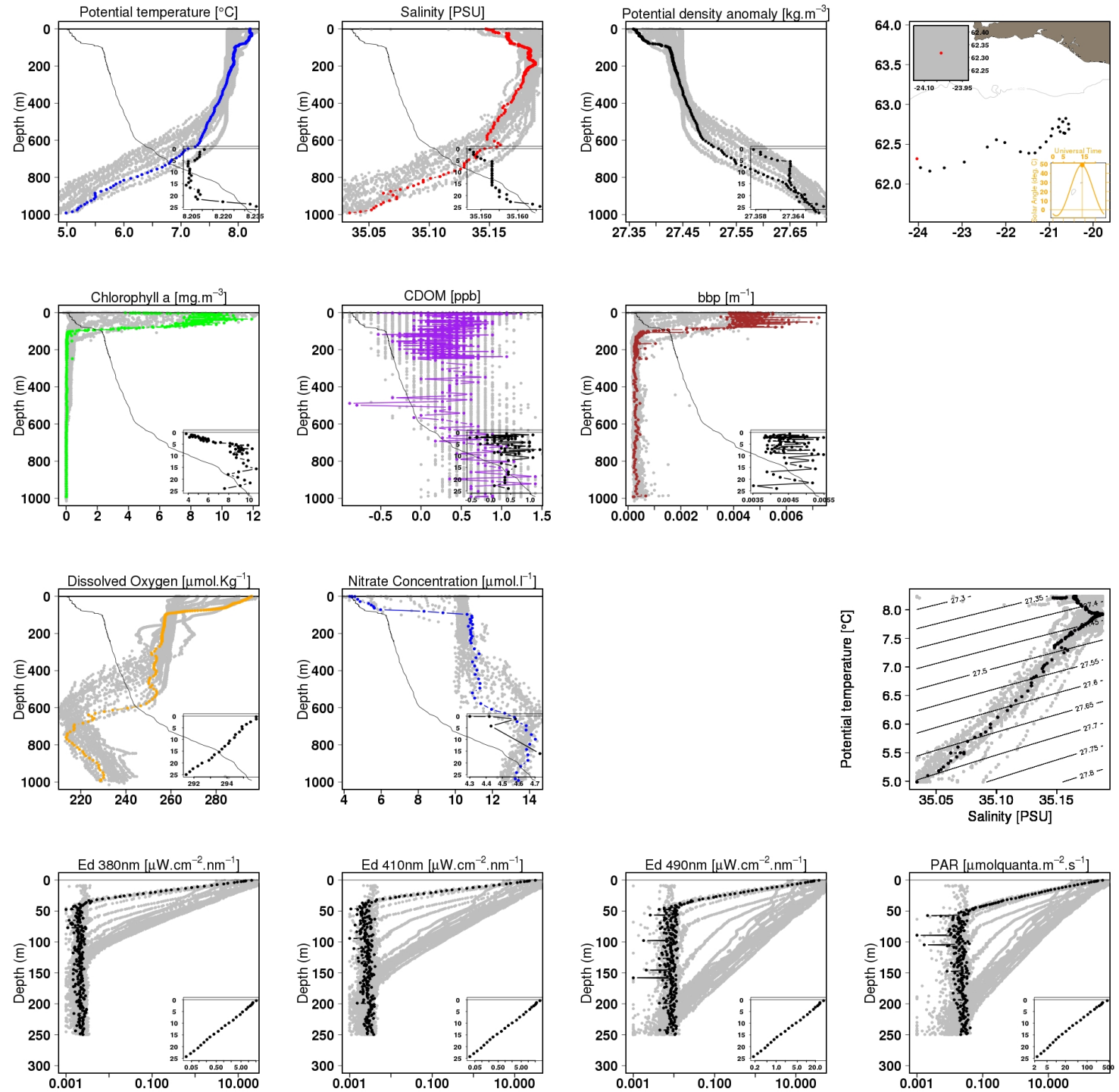
.... open but needs to be controlled

25 MAI 2013



Ascent 2013-05-26 13:49:17

Jpeg created on Tue May 28 15:20:33 2013 with data processed on Tue May 28 15:00:59 2013 (Lon:-24.03deg, Lat:62.32deg.)



2/ProvBio2

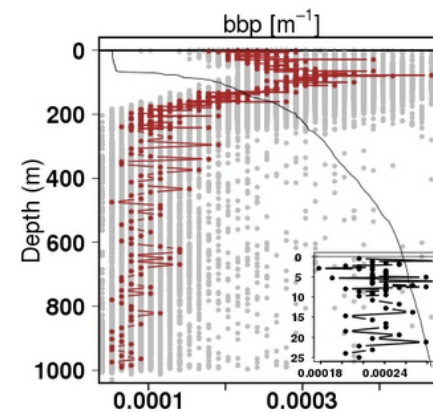
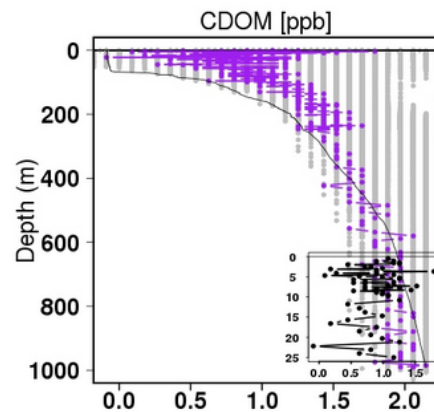
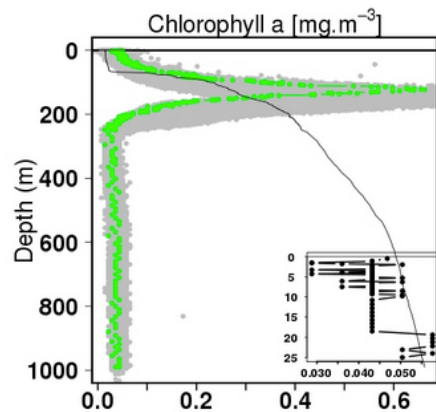
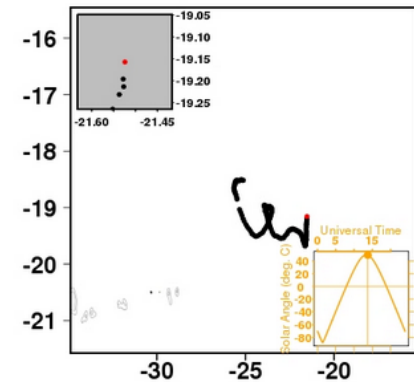
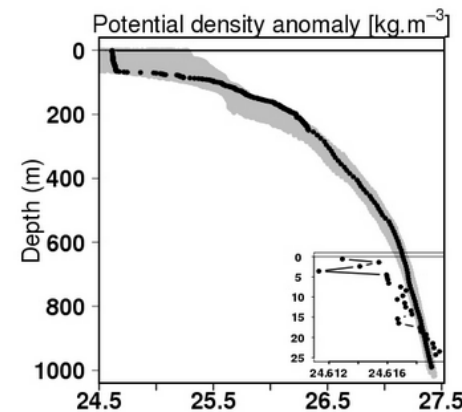
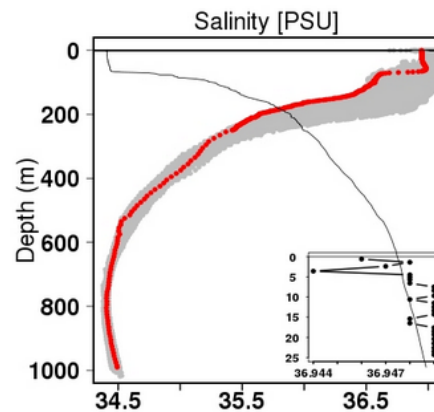
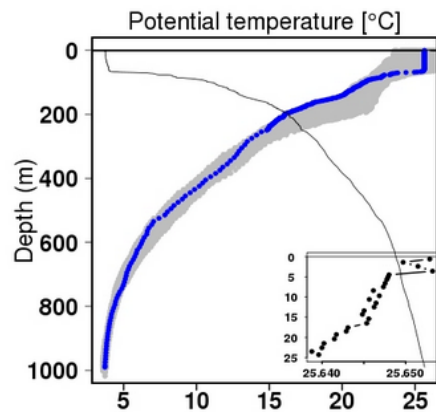
2/ProvBio2

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lovbio005b_199_00_09.txt

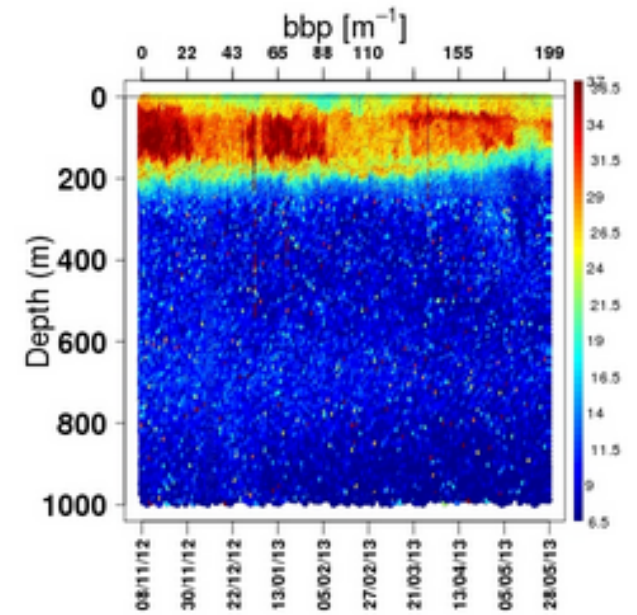
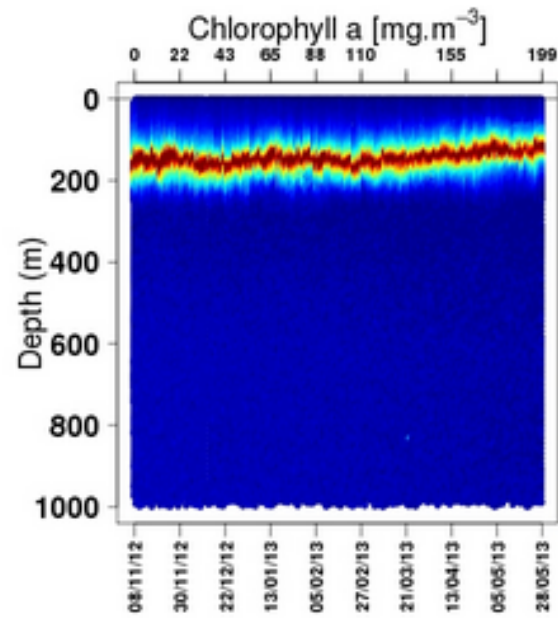
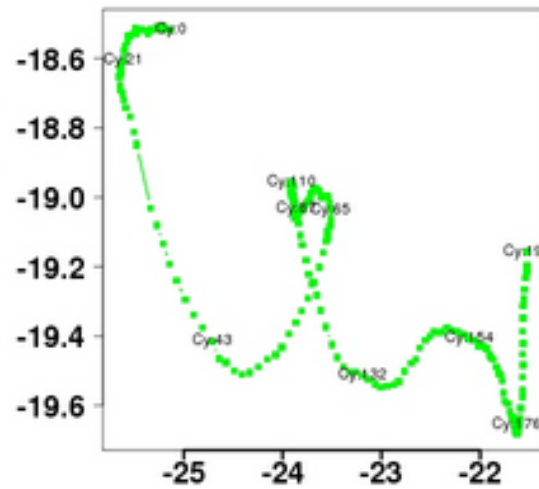
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Lovbio005b
203 profiles

2/ProvBio2

□ Lovbio005b

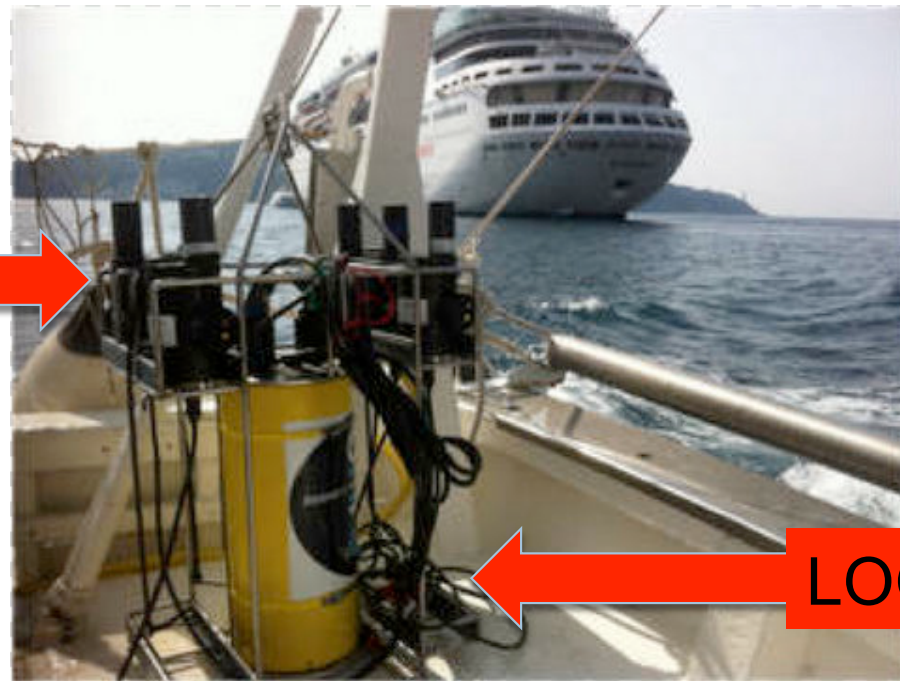


3/Steps before deployment

System of Inter-calibration of Bio-Optic sensors (SIBO).

- Logger up to
 - 6 Eco3
 - 6 OCR
 - 6 transmissometers
 - 4 suna

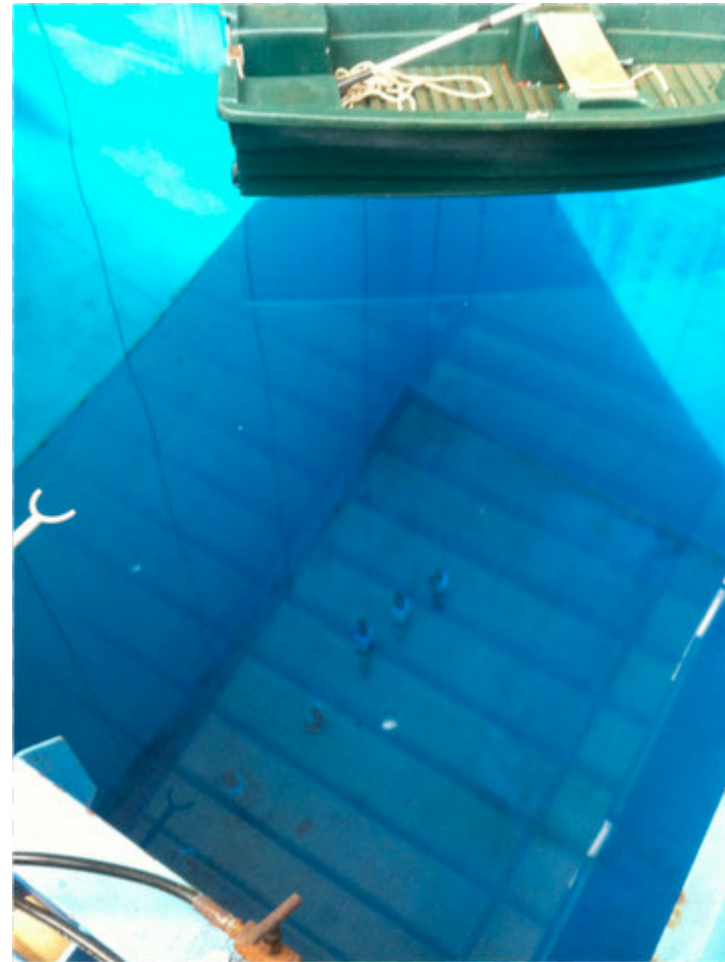
- 0 -200 meters profiles



Comparison with
MASTER/GOLD references

3/Steps before deployment

- Tests conducted in pool (Ifremer, Brest)



3/ Steps before deployment

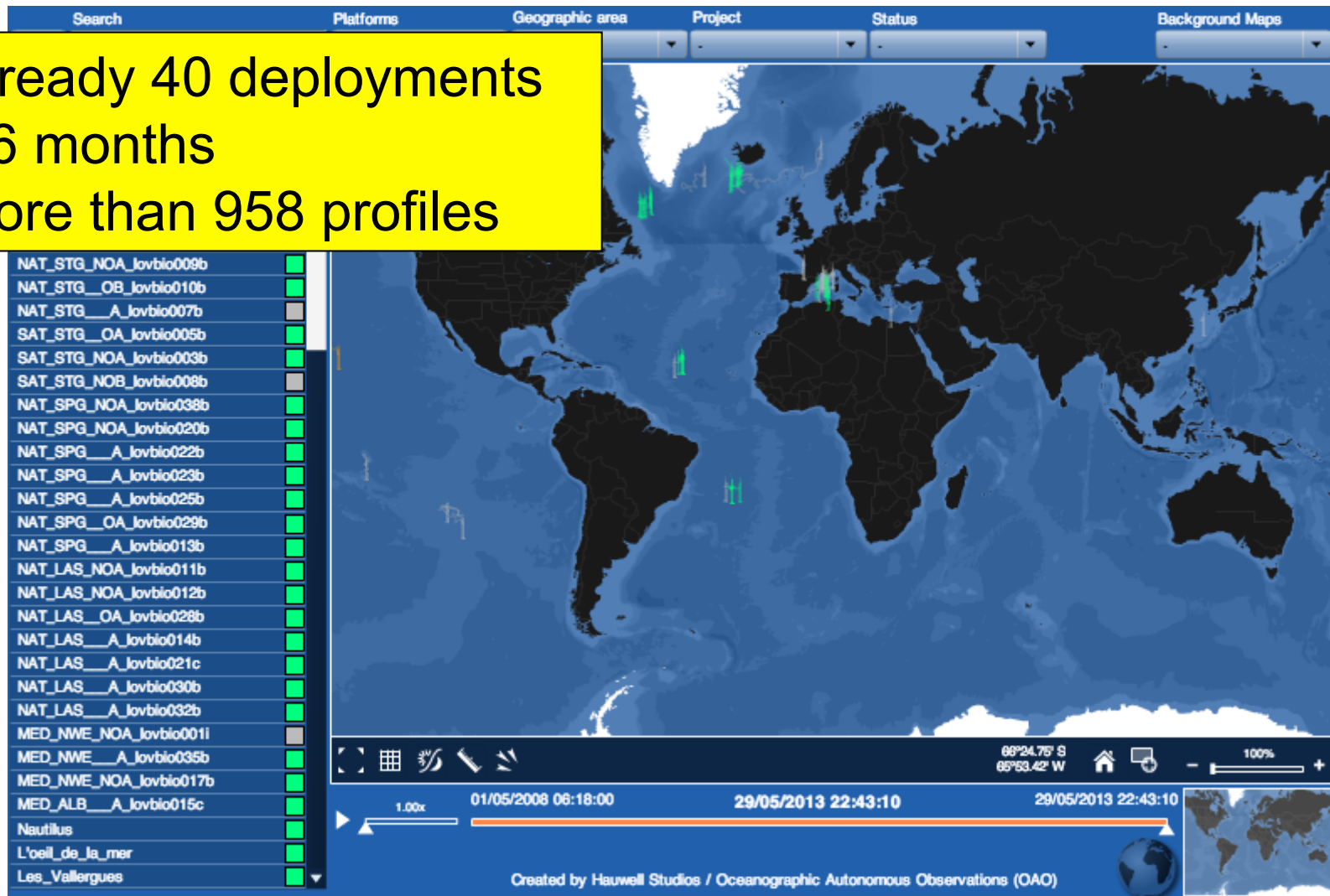


- Programming and control floats before expedition
- Control before loading the box into the boat by a “bio man”
- Before loading the box into the boat: explanation and training by a “bio man” of the person in charge of deploying the float.

ProBioll

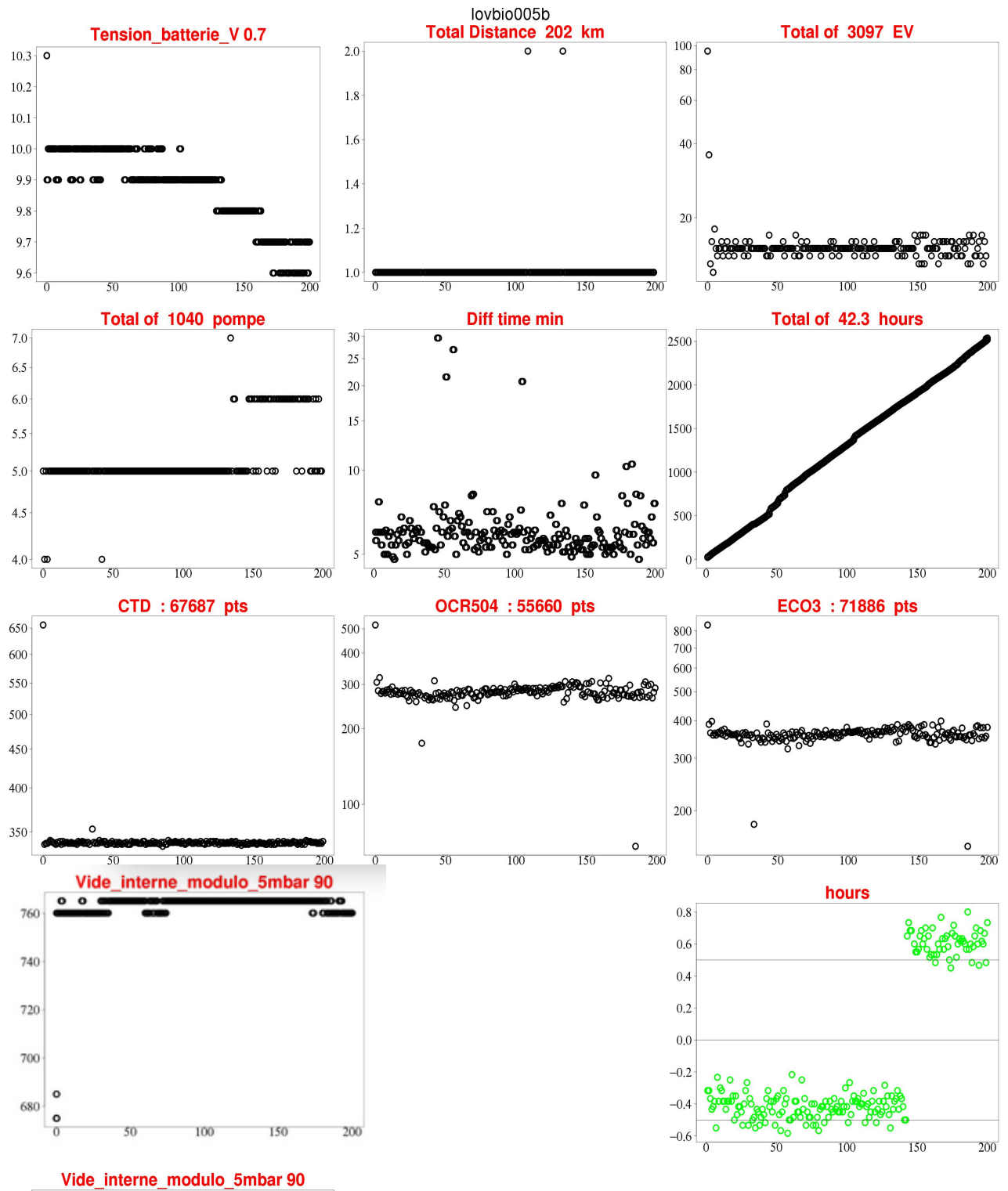
Deployment procedure: 11 easy steps

-Already 40 deployments
in 6 months
-More than 958 profiles



4/ Tools

□ Follow technical information



4/ Tools



- Web interface to modify the mission
 - ▣ Month per Month mission
 - ▣ Automatic adjustment of time of surfacing (Sunrise
Noon Sunset)

- Real time SMS (for 1 float or all floats)
 - ▣ End of life alert
 - ▣ Latitude Longitude (for a rescue)
 - ▣ ...



□ **Merci**