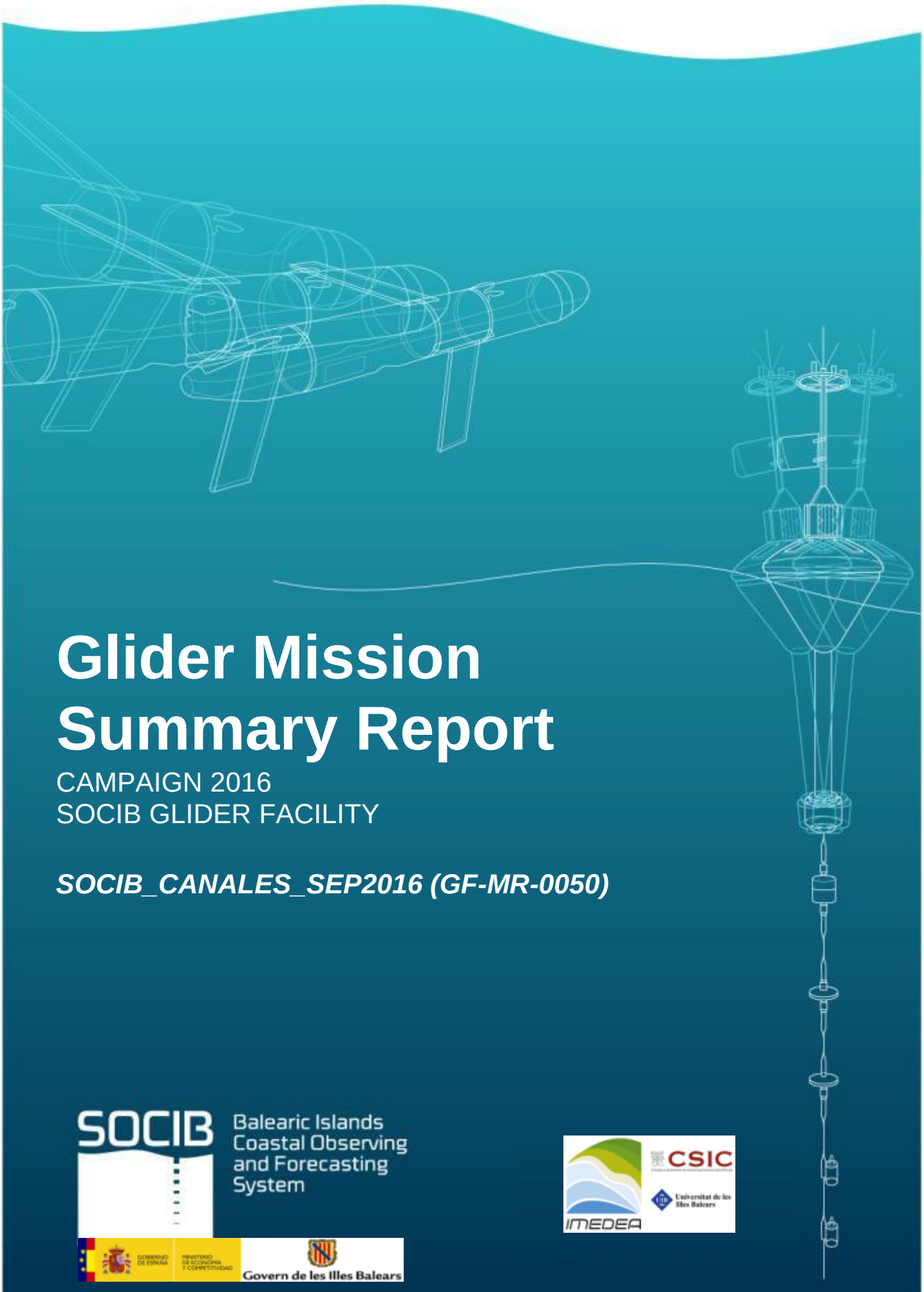

Glider Mission Summary Report

CAMPAIGN 2016
SOCIB GLIDER FACILITY

SOCIB_CANALES_SEP2016 (GF-MR-0050)

SOCIB Balearic Islands Coastal Observing and Forecasting System

Govern de les Illes Balears

IMEDEA CSIC Universitat de les Illes Balears

Mission Name	*SOCIB_CANALES_SET2016 (GF-MR-0050)*		
Platform Model	*Slocum 1000 G2*		
Platform ID / Name / WMO Code	*U567 / SDEEP04 / 68997*		
Related Platforms / Missions	*SCB-APEX006 (wmo691244)*		
Start Date	*2016-09-06*		
End Date	*2016-10-26*		
Total Days	*49.9*	**Total distance (Km / Nm)**	*800 / 432*
Survey Area (NODC or SDN region)	*Mallorca and Eivissa Channels (Western Mediterranean Sea)*		
Objective(s)	• *Establishing the variability of the N/S exchange of water masses that occur through the Ibiza Channel(IC). Sampling standard transects across the Ibiza Channel several times using physical and biogeochemical sensors. No greater than 1 month gap in between consecutive iterations. The Mallorca Channel is also sampled when operationally practical.*		

Scientific Sensors (name & model / serial_number / calibration date)	• *CTD -SBE- / sn 9289 / 23-Feb-2015* • *FLNTU -WetLabs- / sn 3934 / 25-Mar-2015* • *OPTODE -Aandera- / sn 0411 / 21-Jul-2014* *(calibration sheets available upon request to glidertech@socib.es)*
Number of Profiles	*2171 (CTD), 598 (FLNTU), 598 (OXY)*
Significant Events	• *Mission related to GFMR0049, malfunction on pitch motor occurred. After arranged it GFMR0050 started.* • *Async data in SCI produces gaps in RT plots* • *Some currents in north direction* • *Abort due to Low-Relative-Charge* • *Malfunction on altimeter produces some seabed hits*

Mission Summary

Preparation phases were executed between 01/Aug/2016 to 06/Sep/2016. This preparation involves 2 missions, GFMR0049 and GFMR0050. At GFMR0049 deployment emerges a pitch motor problem, then was decided conclude this missions, and start another one.
All the checks and configurations were undertaken according to the pre-mission-report and applicable protocols. There were neither relevant issues nor problems worth to be mentioned here. Compass error was measured in a EMI-free forest location (max. error = 22,01 deg), loaded with Saft lithium batteries (310Ah).

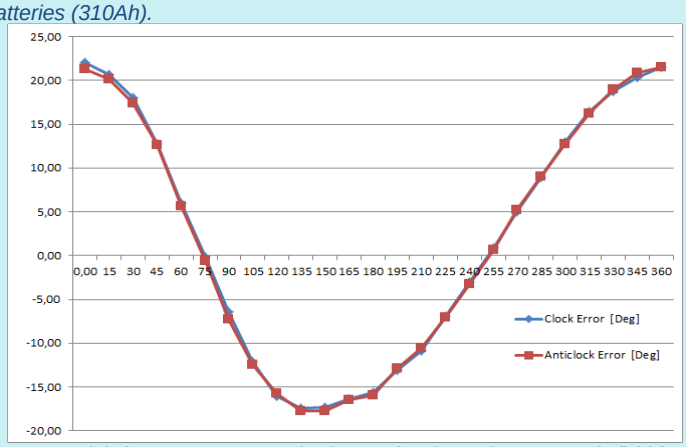

Fig 1.1- Error measured during Compass Error Check procedure in an electromagnetic-field-free environment located in a forest close to IMEDEA (in Esporles)

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Launching operation (09/Set/2016) was executed by 1 ETD and 1 GF facility members on board SOCIB I. Glider was released in N 39°30.5751' E 02°09.6343' at 10:37:22-utc. The deployment was an operative and tactical success (environmental conditions were very good). Pilot was onshore. Glider executed successful test dives prior to the first survey dive.

During Mission

27/Sep/2016 Strong currents north direction

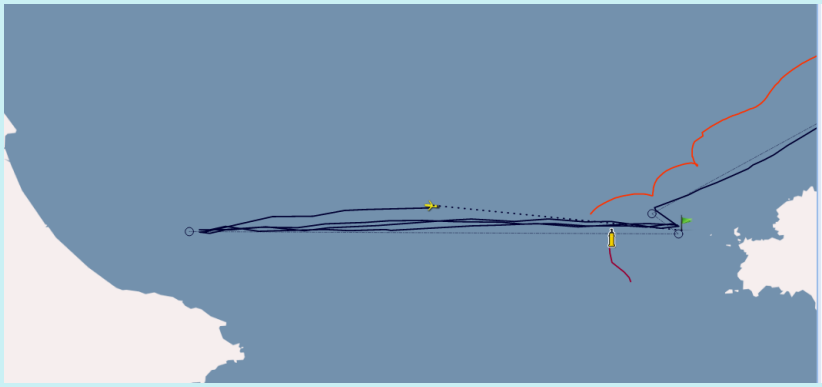

Fig 1.2. Strong currents

27/Sep/2016 SCI gaps due to async data

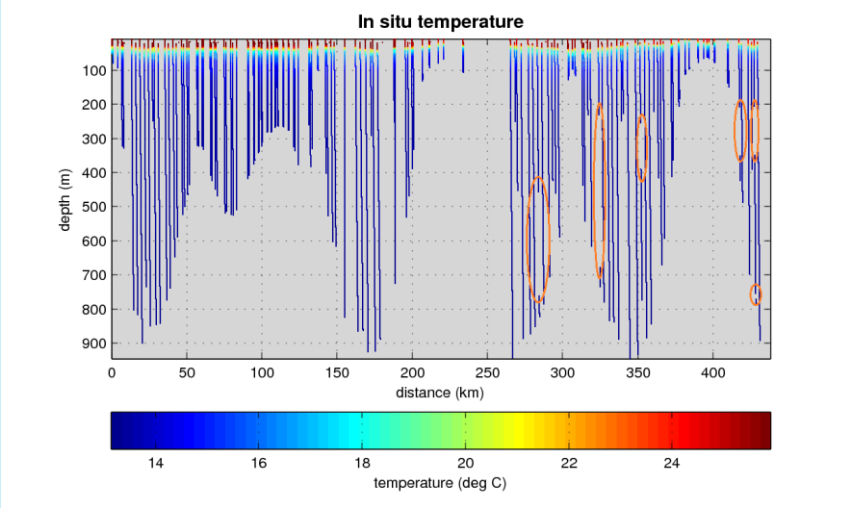

Fig 1.3.

13/Oct/2016 It was planned another Eivissa channel (242,12Ah), but due to a strong currents at the beginning of the transect (255,53Ah), it was decided return to Mallorca to have enough power for an easy recovery (310,81Ah).

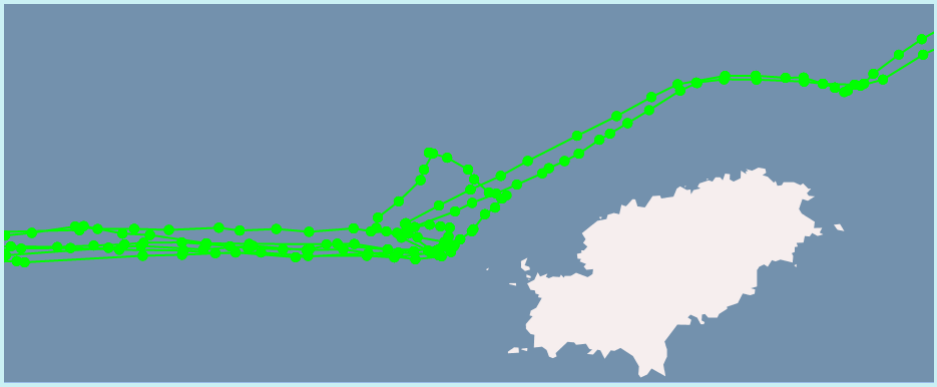

Fig 1.4

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26/Oct/2016 Seabed hits

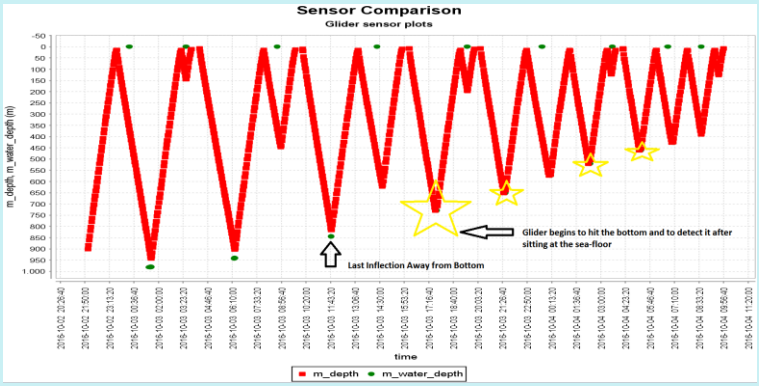

Fig 1.5

Sampling: Science-payload was correctly turned-on and off accordingly to the behavior of the glider executed at all moments during the mission.

Recovery operation (26/Oct/2016) was executed by 1 ETD and 1 GF facility members on board SOCIB I. Before operation starts, glider surfaced at 9.00am UTC. Glider was recovered in N 39°30.8595' E 02°10.0563' 628' at 09:02:55-utc.

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Principal Investigator (e-mail or contact phone/address)	• *Prof. Joaquim Tintoré* *jtintore@socib.es (+34 971439821)*
Institute	*SOCIB in collaboration with IMEDEA*
Project Affiliation (web-site)	*http://www.socib.eu*
Partnership / Participation	• *SOCIB* • *IMEDEA (in-kind contribution of infrastructures)*
Glider Software Version	*Nav : v7.18 Acomms, Payload: 3.21*
Data Retrieval (real-time ⌈ RT ⌉ / delayed-mode ⌈ DM ⌉)	• *RT: sub-set via satellite link every 6 hours every day.* • *DM: direct download of full gathered data sets (flash-cards backup)*
Compass Calibration (specify procedure)	*Compass error was measured. Observed error suggests re-calibration is needed. Deviation in Navigation is considered a consequence of strong currents though (See Figure 1.1)*
Battery Type	*Saft lithium batteries (310Ah-nominal capacity)*
Battery Consumption (Ah)	*245,48Ah (reading from 29,42 to 274,89Ah)*
Data Available From	*http://thredds.socib.es/thredds/catalog/auv/glider/ideep02-ime_sldeep002/catalog.html*
Further Details	*glidertech@socib.es*

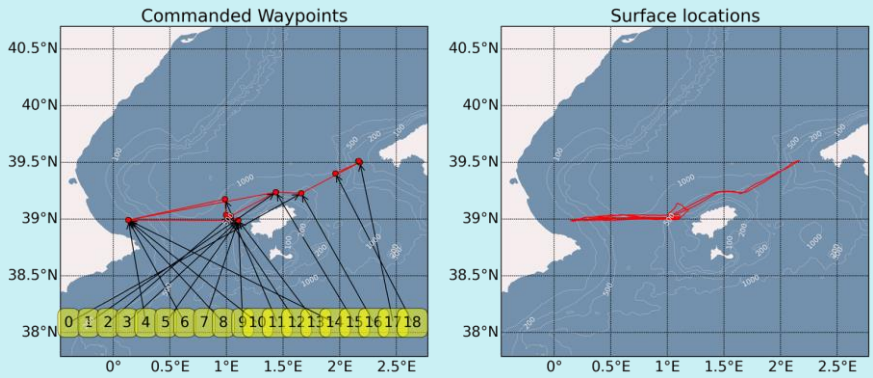
Figure 1

(Map providing general overview of Survey Area)

On-line Track

Figure 2

(Map providing detailed overview of Survey Area and traced Flight Path with surface points if possible)



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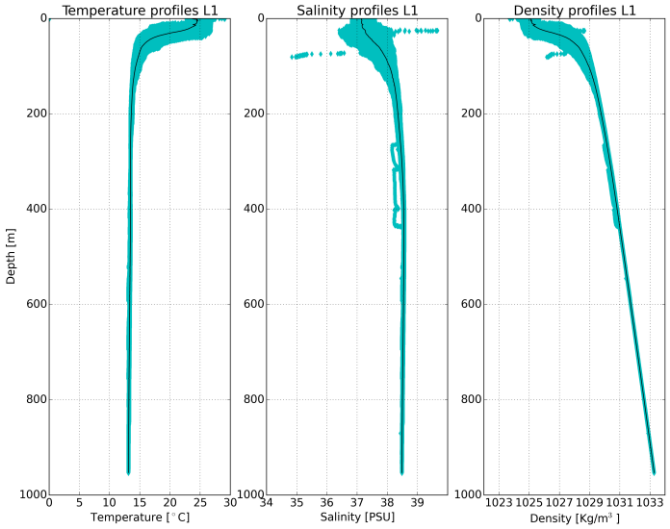
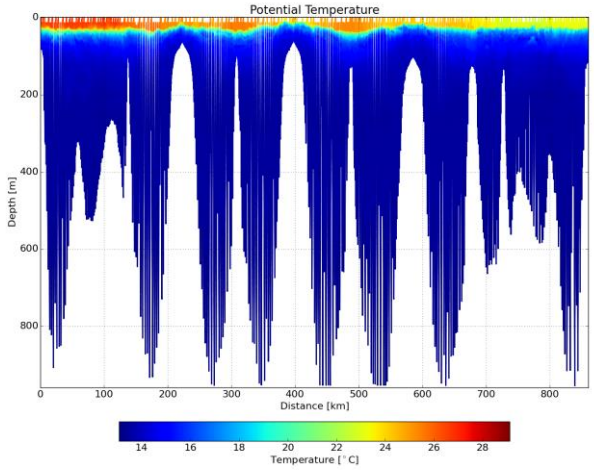
Scientific Preliminary Review

(Compilation of preliminary post-processing plots provided by SOCIB's data-center glider-toolbox and processing services. Contact data.center@socib.es for further info. Plots available through DAPP - See Figure 1 -. Comments provided by SOCIB's scientific staff)

CTD





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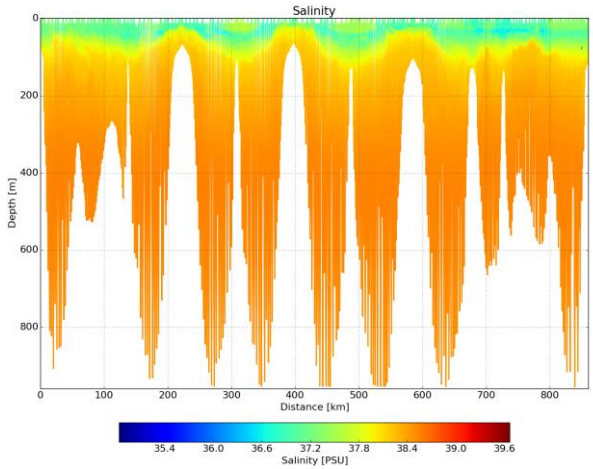

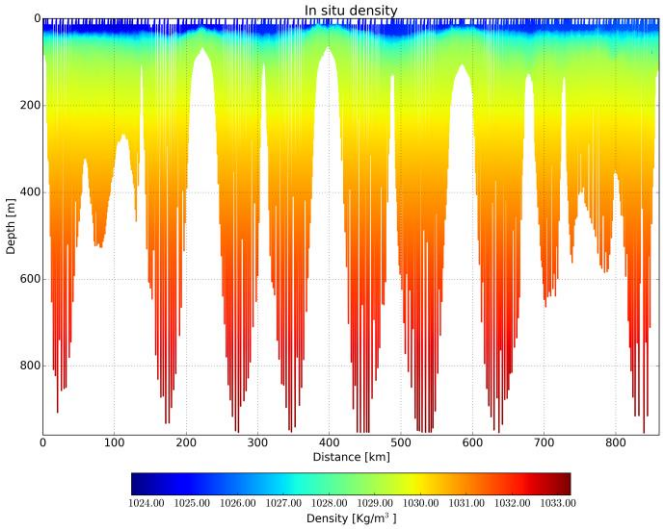

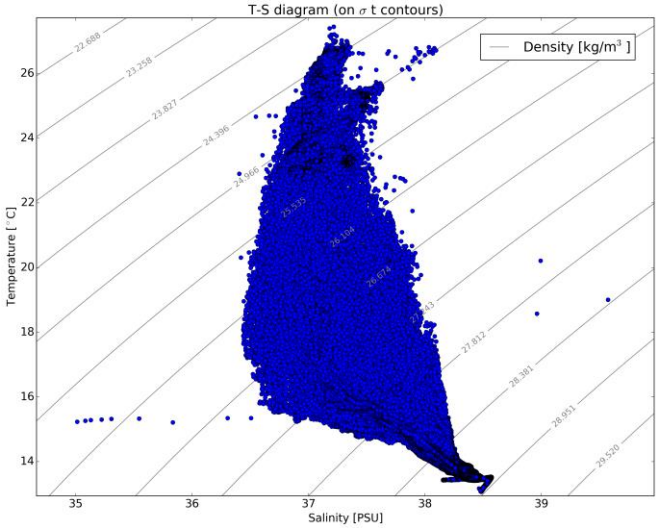

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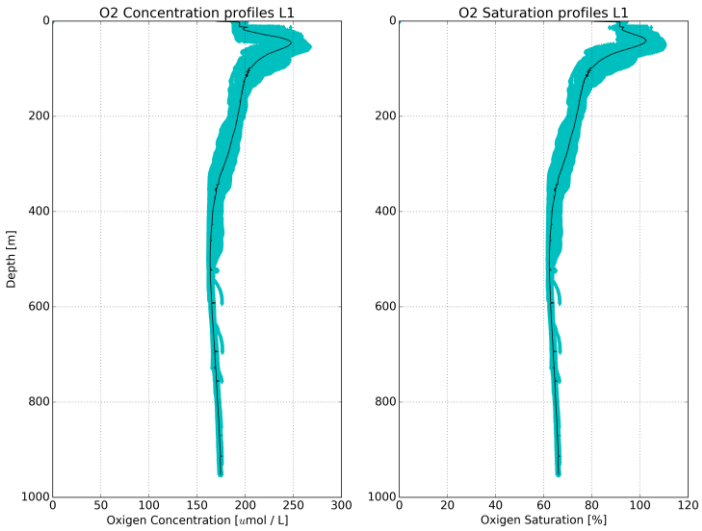
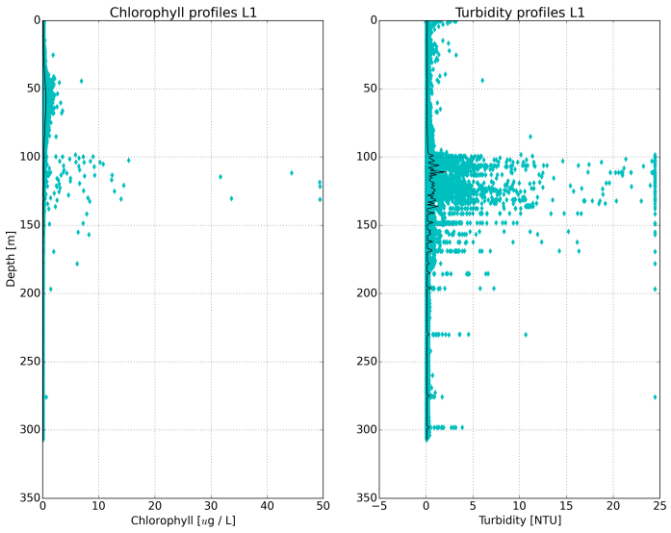
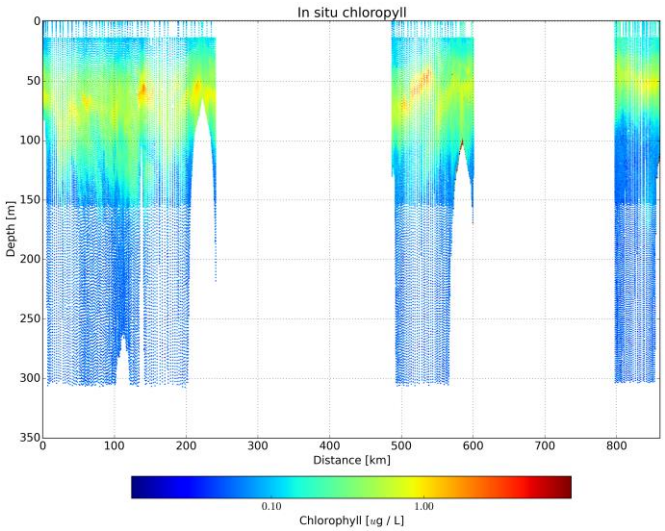
OXYGEN



TURBIDITY & CHLOROPHYLL





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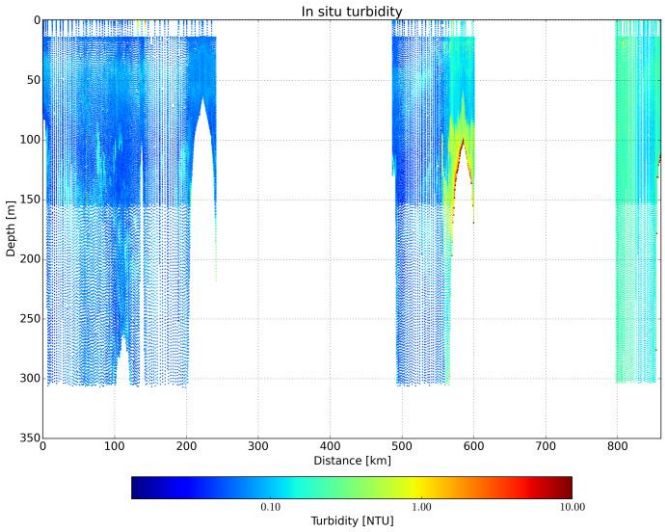
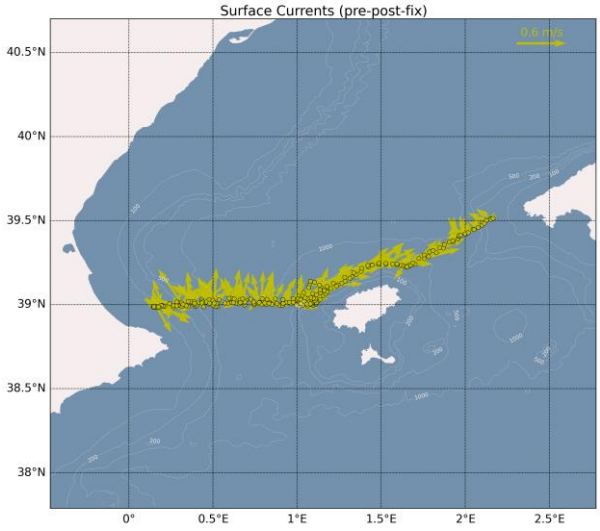


The chlorophyll signature appears to change between the initial part of the mission and the end, at the start it is generally higher above the thermocline in the mixed layer, towards the end of the mission (550 - 600 km) it appears higher and concentrated in a seabed.

CURRENTS



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