

Argo-España

Parte de la estrategia global de observación del océano



Report on Argo float WMO **3902467** deployment

ARGO ESPAÑA - SOCIB / 22 - 81

Argo float deployment for
WMO 3902467

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1. Deployment design

Following the Argo program goals, the float density criteria demand a coverage distribution of $3^{\circ} \times 3^{\circ}$ grid cells (Fig. 1). In order to maintain the global Argo network coverage and taking in account the current distribution of the Argo floats, Argo España planned 3 float deployments in the Balearic sea area after some gaps in the network were identified.

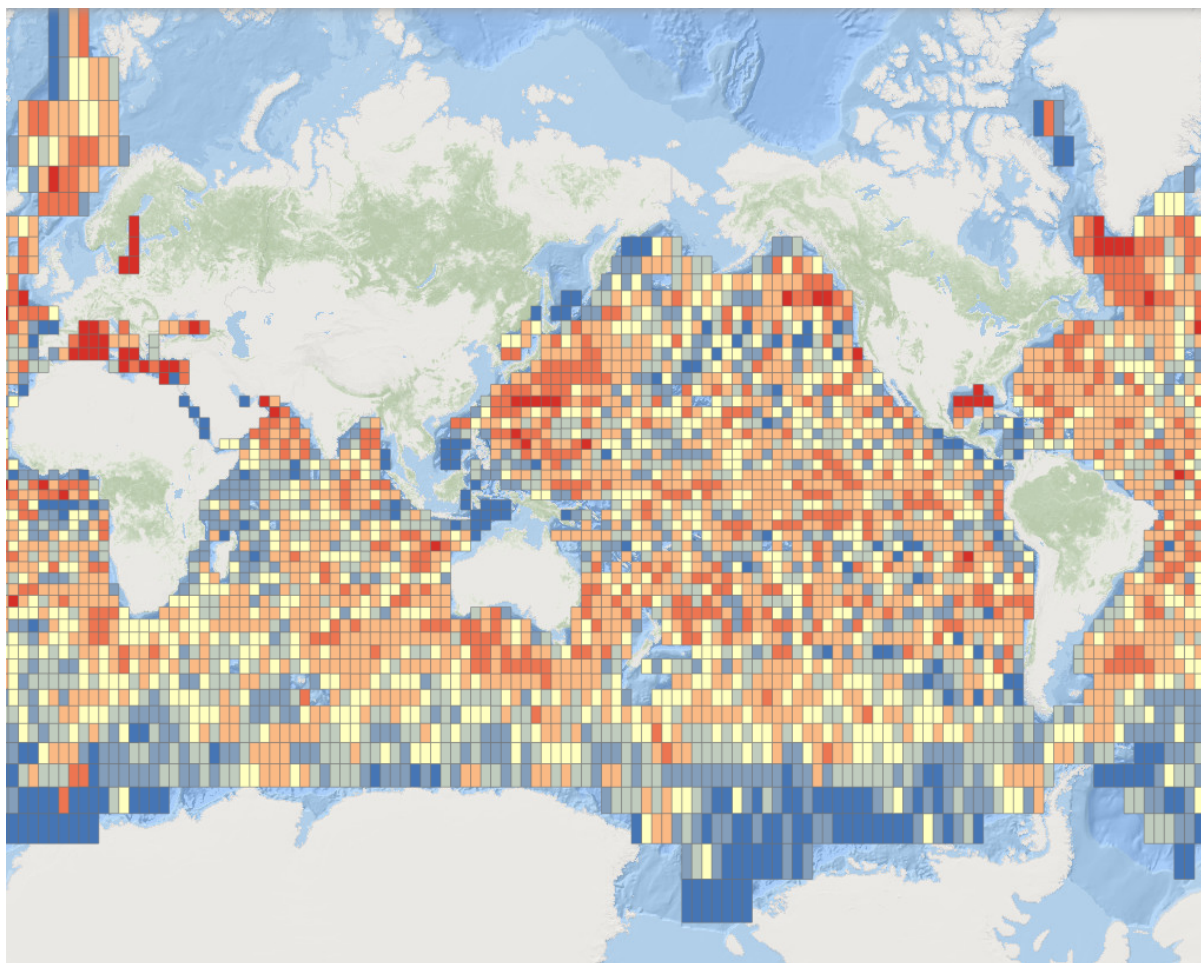


Figure 1. Density of Argo observations in 2021. Deployments in the South Atlantic Ocean are needed if density observations goals want to be reached

The *Canales Autumn 2022* cruise onboard R/V SOCIB was planned to carry out the research in the Balearic Sea, through Denia - Ibiza - Mallorca (Fig. 2a). Floats deployed at the Balearic Sea are occasionally driven out to shore land, making this area a difficult region to observe continuously. The survey was divided in several transects, which includes an ideal location for Argo España

purposes. RADMED_05 station (Fig. 2b) was selected for the Argo float deployment.

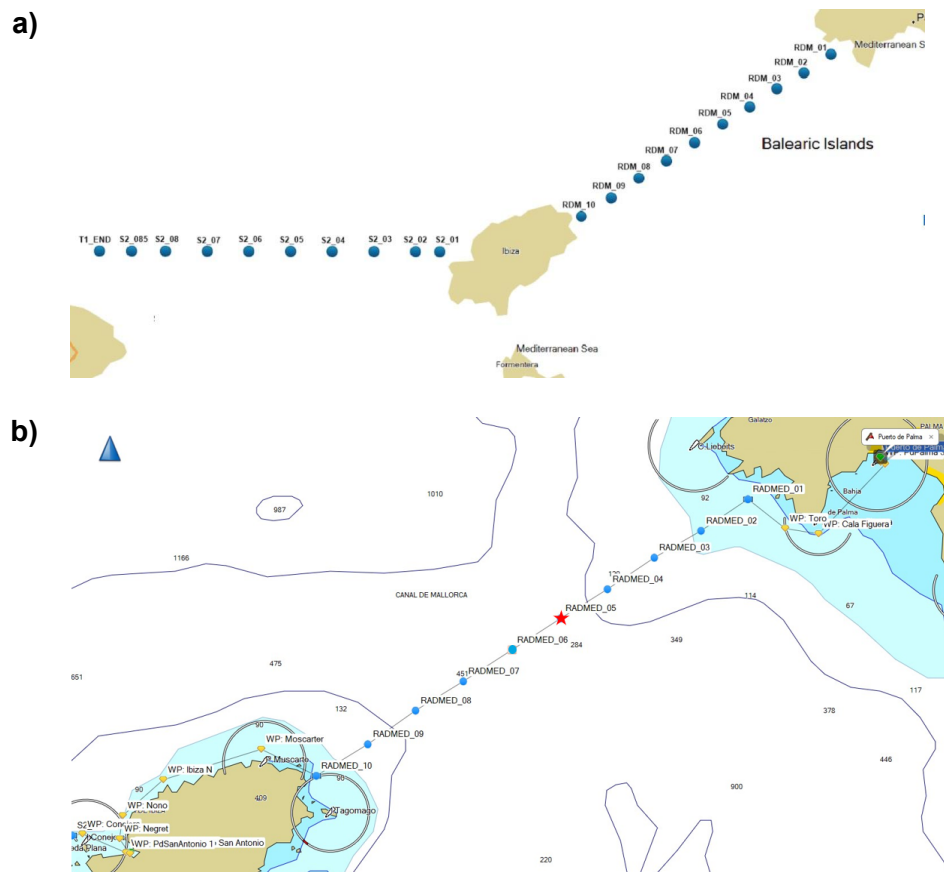


Figure 2. *Canales Autumn 2022* cruise plan (a), and deployment planned point (*) (b).

2. Deployment data

Information of the float deployment is shown in these paragraphs.

- a. **WMO 3902467**. The following table contains all the data of the WMO 3902467 deployment during *Canales Autumn 2022* cruise, deployed at RADMED_05 station (Fig. 2b). No troubled issues during the deployment were reported. CTD cast is available at the deployment location. Coriolis was notified on Nov 17, 2022 and all the information was registered at the Argo Information Center database. The data is free

and publicly available through the Argo data stream:

<http://www.oceanografia.es/argo/datos/floats/3902467.html>

DATE AND TIME	2022 - 11 - 16 / 12:04 UTC
DEPLOYMENT LOCATION	39° 16.30' N 01° 59.22' E
DEPLOYMENT PLATFORM	R/V SOCIB
CRUISE ID	<i>Canales Autumn 2022</i>
FLOAT OWNER	SOCIB
PLATFORM TYPE	NKE Arvor - I
SERIAL NUMBER	AI2600-22EU006
TRANSMISSION SYSTEM	IRIDIUM
PARKING DEPTH (m)	1000
PROFILE DEPTH (m)	2000
DEPLOYMENT DEPTH (m)	566
WEATHER CONDITIONS	<i>waves 2 m, wind 28 knots, air temperature 20.7 °C, cloud</i>
DEPLOYMENT OPERATOR	Irene Lizarán

Table 1. WMO 3902467 information deployment.

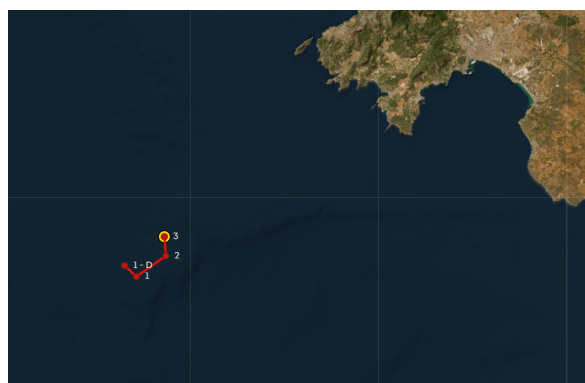
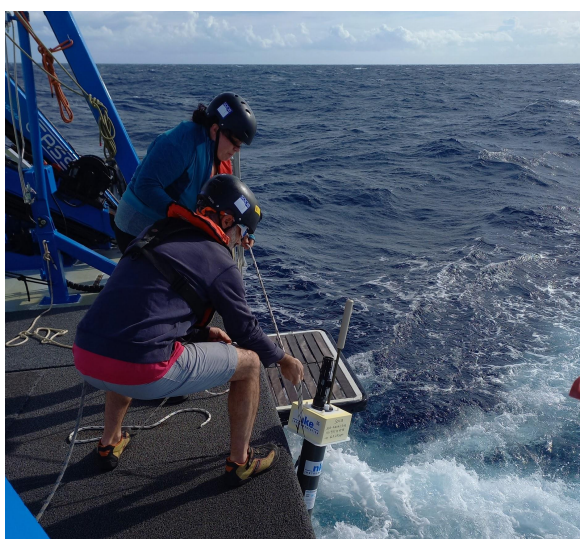


Figure 3. Left: Deployment manoeuvre of the float WMO 3902467 from R/V SOCIB. Right: Deployment location (RADMED_05, Fig. 2b).

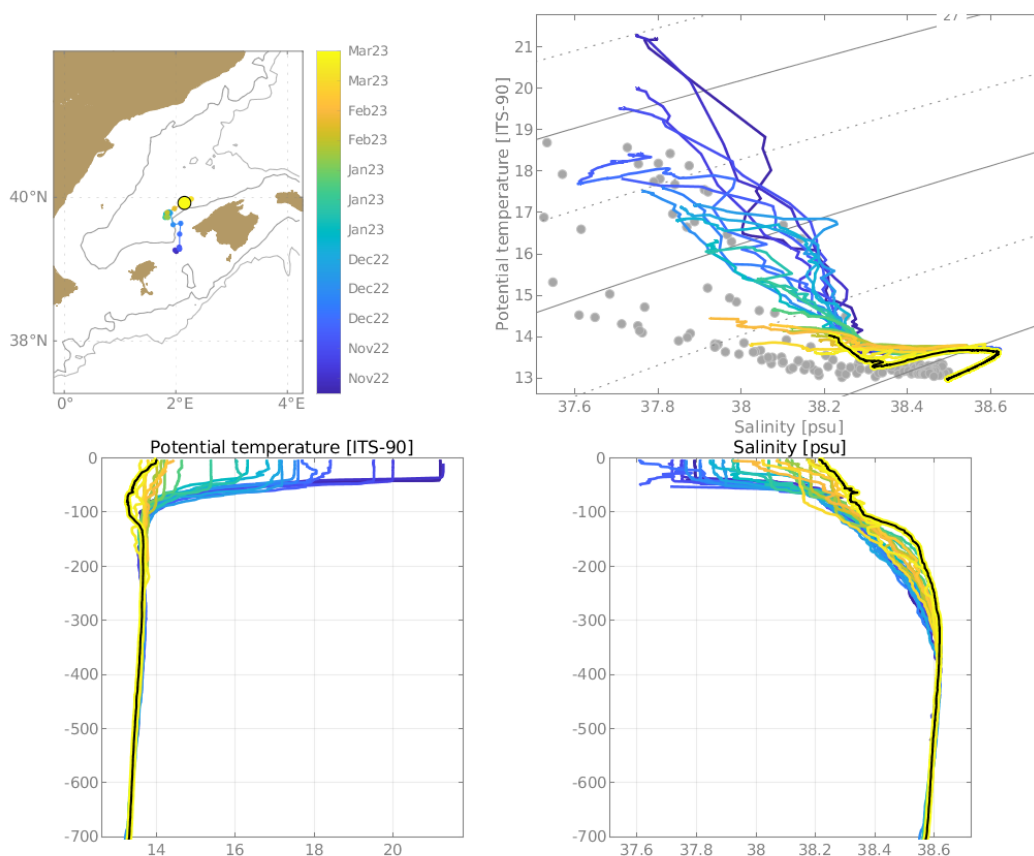


Figure 4. The trajectory of the float since the deployment is showed in the upper left side of the picture. T-S diagram of the data collected by WMO 3902467 is showed in the upper right side of the picture. The grey points are the climatology of the area. The black line is the first profile carried out by the float. The dark blue dashed line describes the CTD cast carried out from the R/V SOCIB. Potential Temperature and Salinity profiles are also shown in the lower side of the picture.

3. Float configuration

“MC” parameters (table 2) were set according to the scientific requirements and the oceanographic area of study (Balearic Sea). The float WMO 3902467 configuration is showed below:

Command no.	Name	Values	Units
Mission Commands			
MC0	Total Number of Cycles	500	Whole number
MC1	Number of cycle with “Cycle Period 1”	1	
MC2	Cycle Period 1	125	Hours
MC3	Cycle Period 2	125	Hours
MC4	Reference Day	2	Number of days
MC5	Estimated time at the surface	6	Hours
MC6	Delay Before Mission	30	Minutes
MC7	CTD sampling mode (1=Continuous, 2=Eco, 3=Mixed, 4=Spot sampling)	1	
MC8	Descent CTD sampling period	0	Seconds
MC9	Drift CTD sampling period	6	Hours
MC10	Ascent CTD sampling period	10	Seconds
MC11	Drift pressure 1	2000	dBar
MC12	Profile pressure 1	2000	dBar
MC13	Drift pressure 2	1000	dBar
MC14	Profile pressure 2	2000	dBar
MC15	Alternate cycle number (1=not used, x=1/x alternated profile)	1	
MC16	Alternate profile pressure	2000	dBar
MC17	Threshold surface/Intermediate Pressure	100	dBar
MC18	Threshold Intermediate /bottom Pressure	500	dBar
MC19	Thickness of the surface slices	1	dBar
MC20	Thickness of the intermediate slices	2	dBar
MC21	Thickness of the bottom slices	5	dBar
MC22	Iridium End of Life Period	60	Minutes
MC23	Time between 1st&2nd Iridium session(0=no 2nd session)	0	Minutes
MC24	Grounding mode (0=Shift, 1=Stay grounded)	0	
MC25	Grounding shift	100	dBar
MC26	Wait at surface if grounding	30	Minutes
MC27	Optode type (0=no optode, 1=4330, 2=3830, 3=ext. sensor)	0	
MC28	CTD CutOff pressure	2	dBar
MC29	In air acq.: Periodicity of in air measurement (0=no acq., 1=acq. on each cycle, x=acq. on 1/x cycle)	0	
MC30	In air acq.: Sampling period	30	Seconds
MC31	In air acq.: Acquisition duration	5	Minutes

Table 4. Configuration sheet for the float deployed during *Canales Autumn 2022* cruise.

4. Acknowledgements

Argo España would like to thank Lara Díaz, Irene Lizarán and the rest of the crew of the R/V SOCIB, who cooperated for the success of the mission.