

Argo-España

Parte de la estrategia global de observación del océano



Report on Argo floats WMOs 3902466- 6990533 deployments

ARGO ESPAÑA – SOCIB / 86

Argo float deployments for WMO 3902466- 6990533

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1. Deployment design

Following the Argo program goals, the floats' density criteria calls for a 3° x 3° grid cells coverage distribution of (Fig. 1). To maintain the global Argo network coverage and taking in account the current distribution of the Argo floats, Argo - España planned 3 float deployments per year as part of the Euro-Argo European Research Infrastructure Consortium (ERIC). Due to the keen interest of the European community in monitoring marginal seas, SOCIB deploys 2 Argo profiling floats in the Balearic sea.

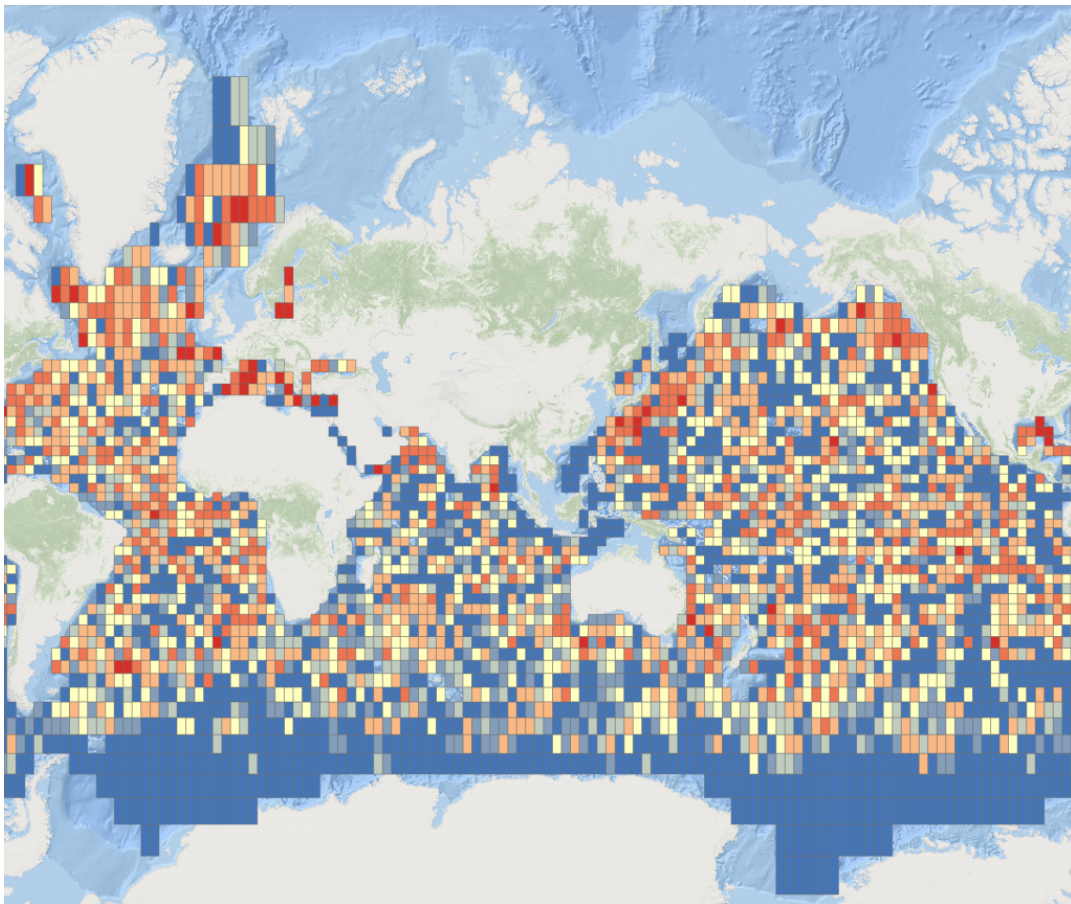


Figure 1. Density of Argo observations in 2022 (2023 is not updated yet).

As PI of the *Canales Autumn 2023* cruise, Joaquín Tintoré (SOCIB) was requested to lead the Argo deployment planning. The 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. Stations RADMED_06 and S2_05 (Fig. 2b, 2c) were selected for the Argo float deployments.

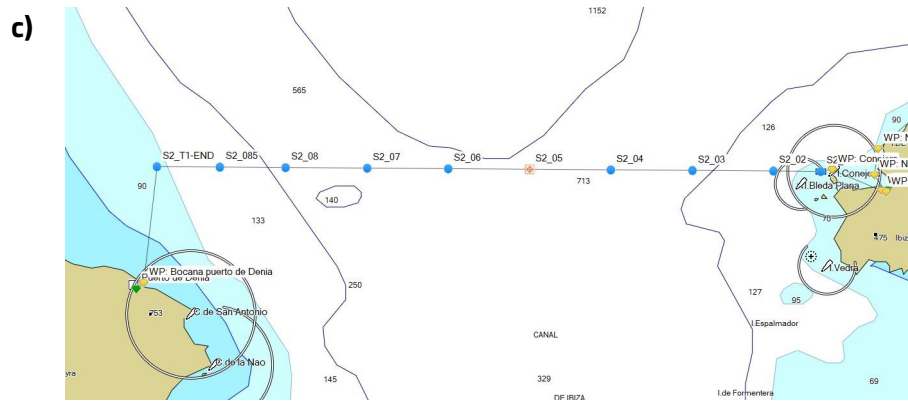
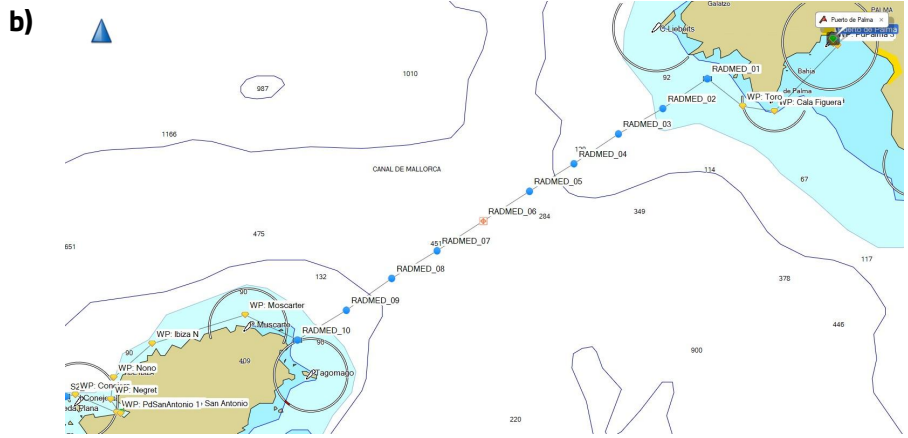


Figure 2. Canales Autumn 2023 cruise plan (a), and deployment planned points (*) (b, c).

2. Deployment data

Information of the float deployments is shown in these paragraphs.

- a. **WMO 3902466.** The following table contains all the data of the WMO 3902466 deployment during *Canales Autumn 2023* cruise, deployed at RADMED_06 station (Fig. 2b). No troubled issues during the deployment were reported. CTD cast is available at the deployment location. Coriolis was notified on Nov 09, 2023 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/3902466.html>

DATE AND TIME	2023 - 11 - 07 / 12:35 UTC
DEPLOYMENT LOCATION	39°15.486' N 1°58.890' E
DEPLOYMENT PLATFORM	R/V SOCIB
CRUISE ID	<i>Canales Autumn 2023</i>
FLOAT OWNER	SOCIB
PLATFORM TYPE	NKE Arvor - I
SERIAL NUMBER	AI2600-22EU005
TRANSMISSION SYSTEM	IRIDIUM
PARKING DEPTH (m)	350
PROFILE DEPTH (m)	2000
DEPLOYMENT DEPTH (m)	594
WEATHER CONDITIONS	<i>waves 0.6-0.8 m, wind 10 knots, air temperature 17 °C, sunny</i>
OPERATOR NAME	Lara Díaz-Barroso
STAFF INVOLVED	Nikolaus Wirth, Noemí Calafat, Irene Lizarán

Table 1. WMO 3902466 information deployment.

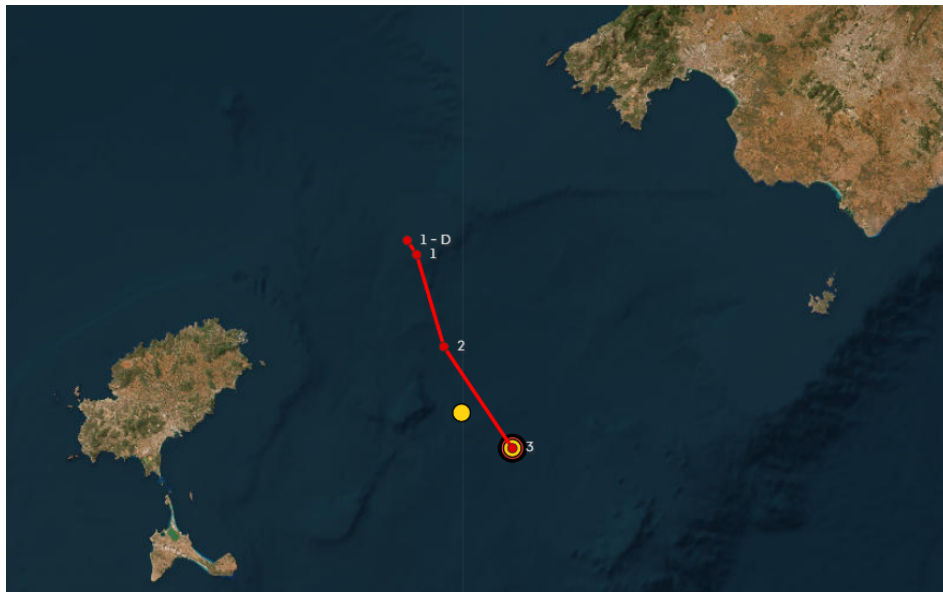


Figure 3. Deployment location and trajectory. Source: [Argo Fleet Monitoring](#).

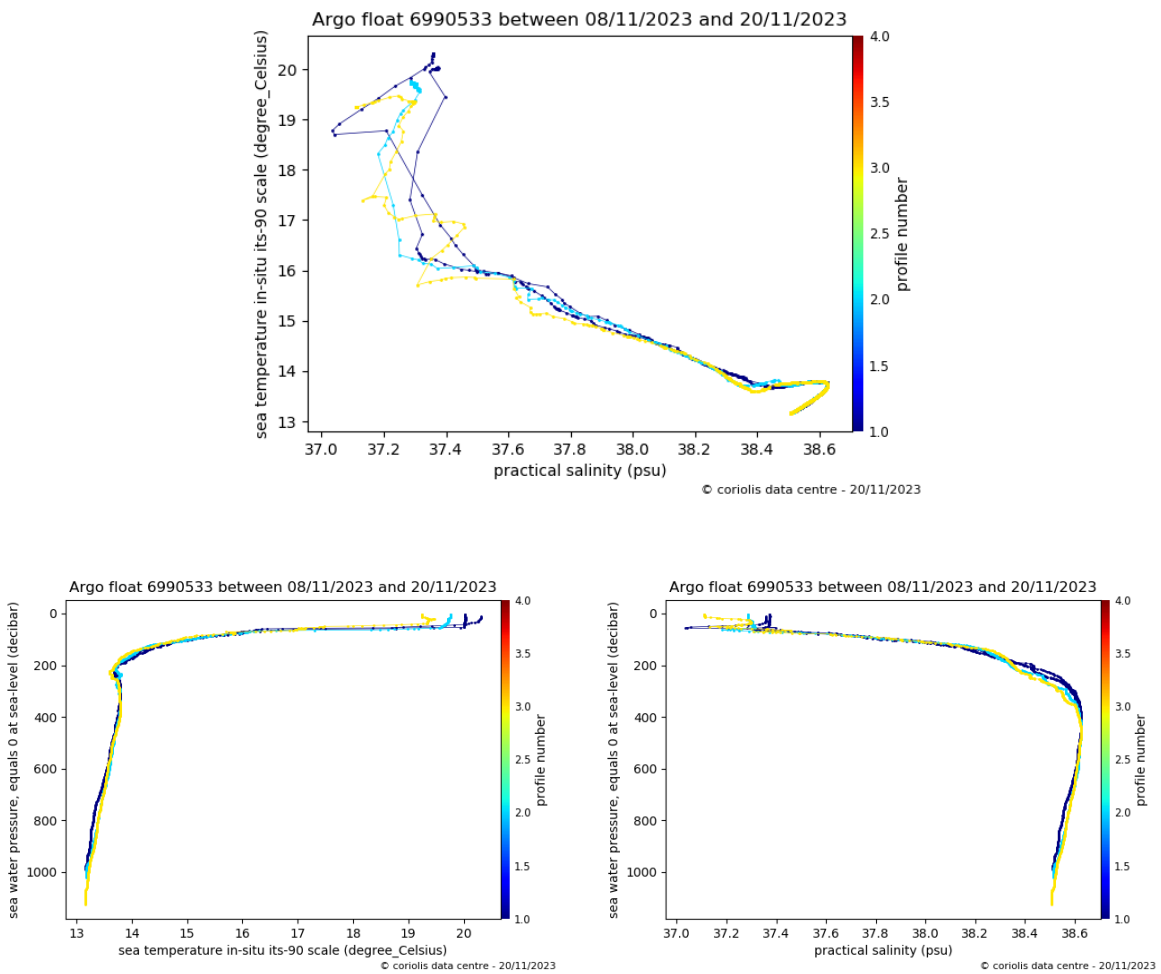


Figure 4. (Up) The T-S diagram of the data collected by WMO 3902466. (Down) Potential Temperature and Salinity profiles. Source: [Argo Fleet Monitoring](#).

b. **WMO 6990533.** The following table contains all the data of the WMO 6990533 deployment during *Canales Autumn 2023* cruise, deployed at S2_05 station (Fig. 2c). No troubled issues during the deployment were reported. CTD cast is available at the deployment location. Coriolis was notified on Nov 09, 2023 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/6990533.html>

DATE AND TIME	2023 - 11 - 08 / 12:33 UTC
DEPLOYMENT LOCATION	39°00.024' N 0°44.256' E
DEPLOYMENT PLATFORM	R/V SOCIB
CRUISE ID	<i>Canales Autumn 2023</i>
FLOAT OWNER	SOCIB
PLATFORM TYPE	NKE Arvor - I
SERIAL NUMBER	AI2600-23SP009
TRANSMISSION SYSTEM	IRIDIUM
PARKING DEPTH (m)	350
PROFILE DEPTH (m)	2000
DEPLOYMENT DEPTH (m)	968
WEATHER CONDITIONS	<i>waves 0.7-0.8 m, wind 13 knots, air temperature 16 °C, cloudy</i>
OPERATOR NAME	Lara Díaz-Barroso
STAFF INVOLVED	Nikolaus Wirth, Josep Baeza, Irene Lizarán

Table 2. WMO 6990533 information deployment.



Figure 5. Deployment location and trajectory. Source: [Argo Fleet Monitoring](#).

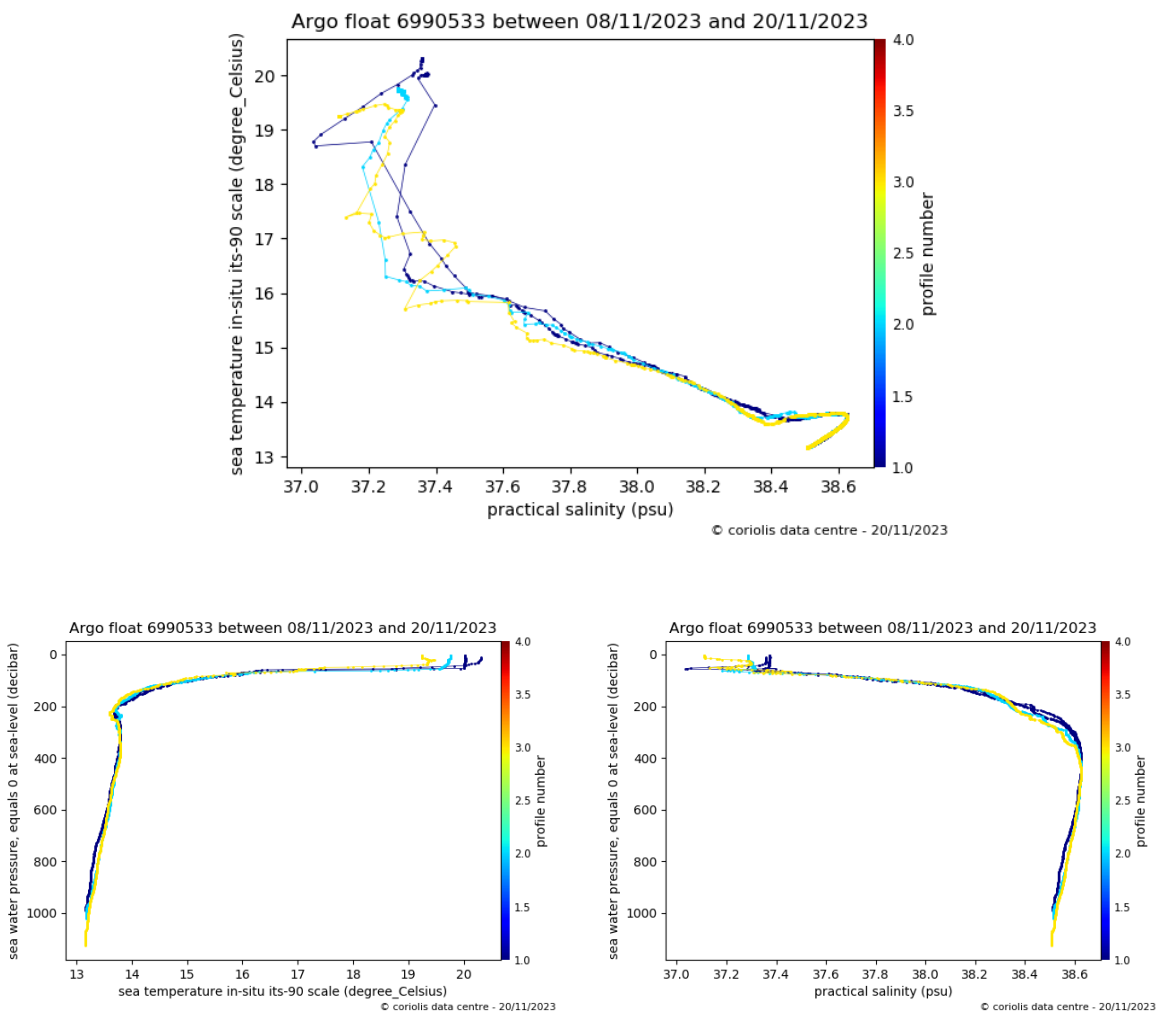


Figure 6. (Up) The T-S diagram of the data collected by WMO 3902466. (Down) Potential Temperature and Salinity profiles. Source: [Argo Fleet Monitoring](#).

3. Float configuration

“MC” parameters (table 4) were set according to the scientific requirements and the oceanographic area of study (Balearic Sea). The floats WMO 3902466 and 6990533 dive up to 2000 m depth carrying out cycles of 125 hours, with a parking depth of 350 m.

Mission Commands		Values	Units
Command no.	Name		
MC0	Total Number of Cycles	999	
MC1	Number of cycle with “Cycle Period 1”	999	
MC2	Cycle Period 1	125	hours
MC3	Cycle Period 2	125	hours
MC4	Reference Day	2	internal day number
MC5	Estimated time at the surface	6	hour
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	3	hours
MC10	Ascent CTD sampling period	10	seconds
MC11	Drift pressure 1	350	decibars
MC12	Profile pressure 1	2000	decibars
MC13	Drift pressure 2	1000	decibars
MC14	Profile pressure 2	2000	decibars
MC15	Alternate cycle number (1=not used, x=1/x alternated profile)	1	
MC16	Alternate profile pressure	2000	decibars
MC17	Threshold surface/Intermediate Pressure	400	decibars
MC18	Threshold Intermediate /bottom Pressure	1400	decibars
MC19	Thickness of the surface slices	1	decibars
MC20	Thickness of the intermediate slices	2	decibars
MC21	Thickness of the bottom slices	5	decibars
MC22	Iridium End of Life Period	1440	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	50	decibars
MC26	Wait at surface if grounding	10	minutes
MC27	Optode type (0=no optode, 1=4330, 2=3830, 3=ext. sensor)	0	
MC28	CTD CutOff pressure	2	decibars
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 3. Configuration sheet for the float deployed during *Canales Autumn 2023* cruise.

4. Acknowledgements

Argo España would like to thank the crew on board of the R/V SOCIB, who deployed the float and cooperated for the success of the mission.