Argo-España

Parte de la estrategia global de observación del océano

Report on Argo float WMO *4903829* deployment

ARGO ESPAÑA – SOCIB / 91

Argo float deployment for WMO 4903829

December 13, 2024

L. Díaz- Barroso - I. Lizarán - J. Tintoré
A. González-Santana - P. Vélez-Belchí

Sistema de Observación y Predicción Costero de las Illes Balears (SOCIB)
Instituto Español de Oceanografía (IEO) - Consejo Superior de Inv. Científicas (CSIC)

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.

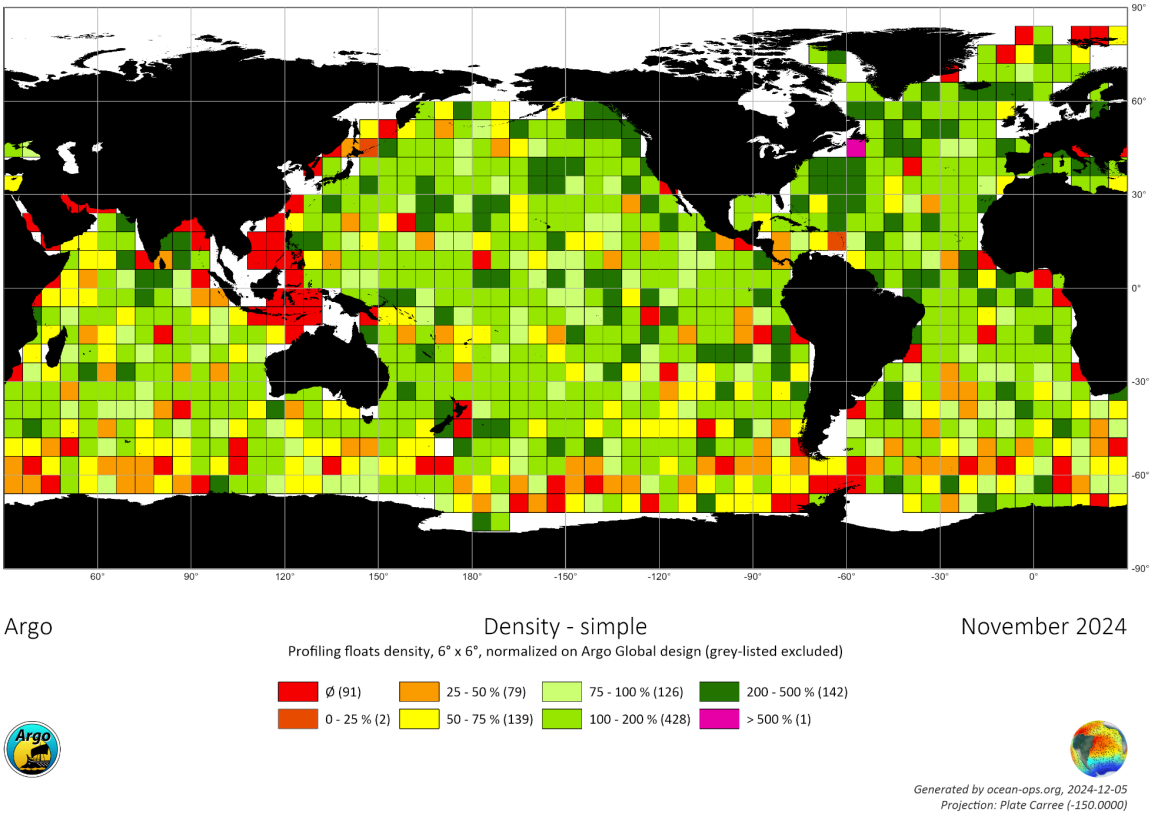


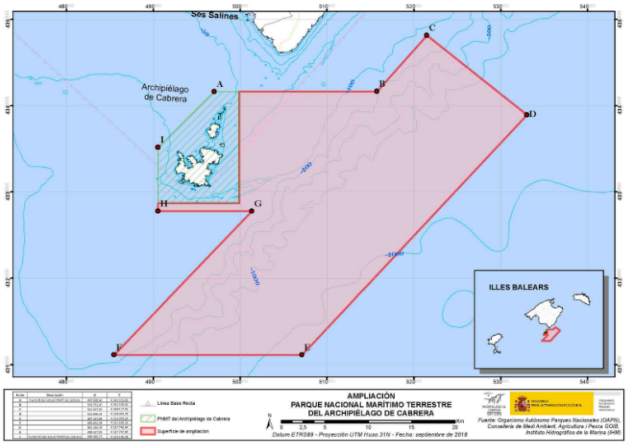
Figure 1. Density of Argo observations in November 2024, the latest monthly observation map available in OceanOPS.

The EBAMAR project focuses on designing, implementing, and monitoring activities at key sites within the Balearic Coastal Observation Network, with a particular emphasis on the Portocolom Coastal Observation Station. The project aims to advance climate change observation and research in the Balearic region.

During the *SOCIB-IMEDEA EBAMAR Nov 2024* cruise, an Argo float deployment was planned. The cruise served as a ship-of-opportunity to carry out the deployment along a transect between Portocolom and Palma.

The deployment site was strategically selected near Cabrera National Park (Fig. 2a), at the edge of the continental shelf (Fig. 2b).

a)



b)

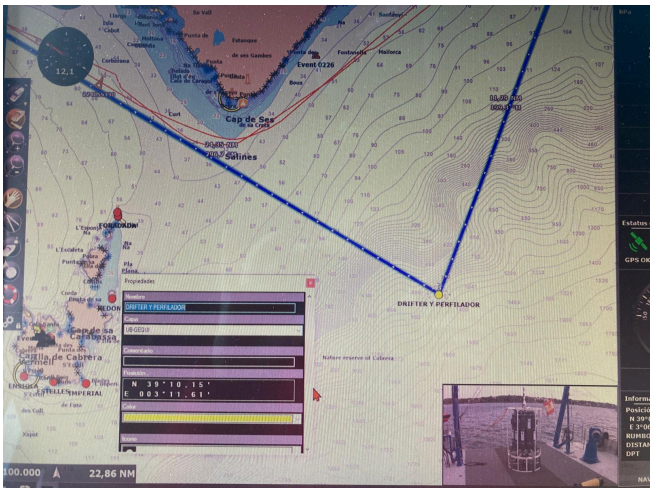


Figure 2. (a) Cabrera National Park area, and (b) deployment planned point (yellow).

2. Deployment data

Information of the float deployment is shown in these paragraphs.

a. **WMO 4903829.** The following table contains all the data of the WMO 4903829 deployment during *SOCIB-IMEDEA EBAMAR Nov 2024* cruise. No troubled issues during the deployment were reported. Coriolis was notified on November 14, 2024 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/4903829.html

DATE AND TIME	2024 - 11 - 13 / 13:02 UTC
DEPLOYMENT LOCATION	39°10.19' N 3°11.60' E
DEPLOYMENT PLATFORM	R/V SOCIB
CRUISE ID	*SOCIB-IMEDEA EBAMAR Nov 2024*
FLOAT OWNER	SOCIB
PLATFORM TYPE	NKE Arvor - I
SERIAL NUMBER	AI2600-24SP102
TRANSMISSION SYSTEM	IRIDIUM
PARKING DEPTH (m)	350
PROFILE DEPTH (m)	2000
DEPLOYMENT DEPTH (m)	~1000
WEATHER CONDITIONS	*waves 1.4 m, wind 16 knots, air temperature 19.2 °C, cloudy*
OPERATOR NAME	Lara Díaz-Barroso
STAFF INVOLVED	Irene Lizarán, Benjamín Casas

Table 1. WMO 4903829 information deployment.

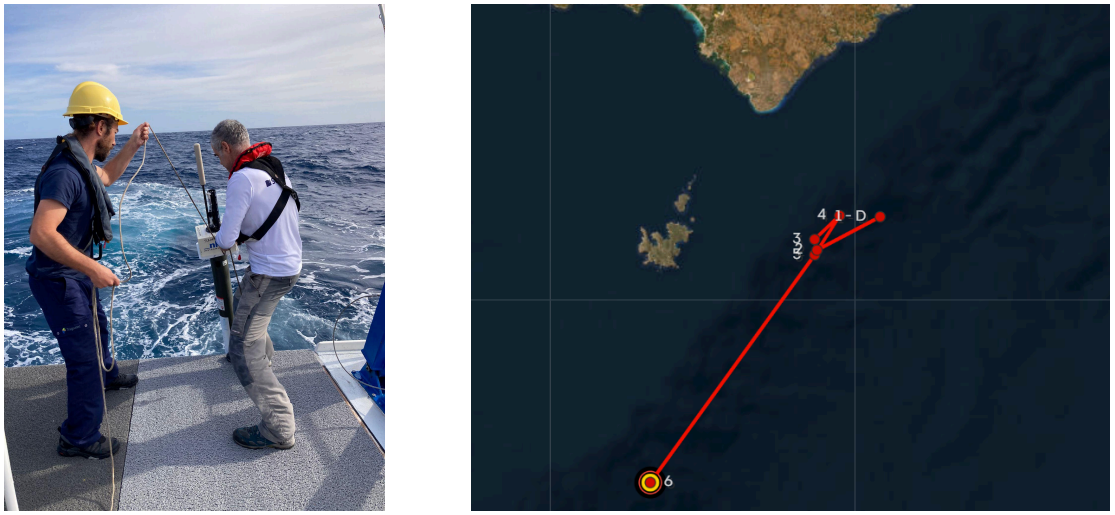
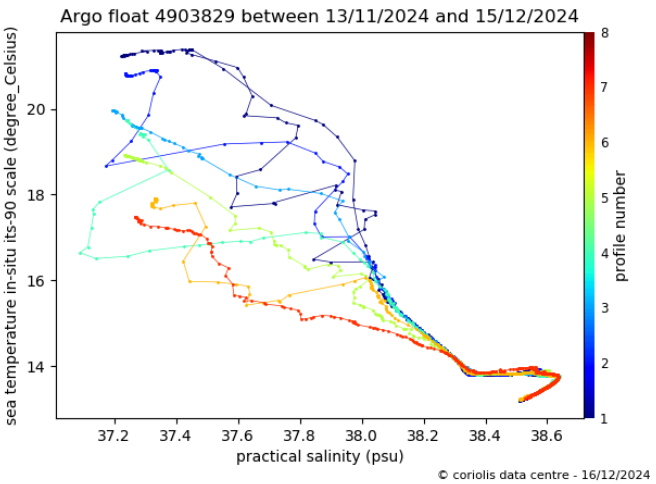
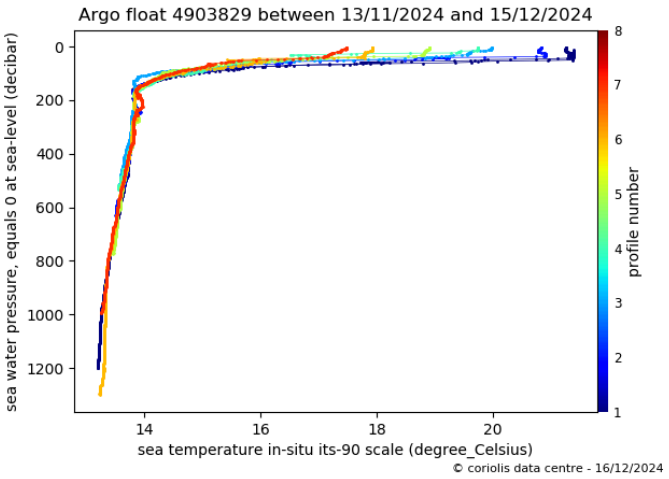


Figure 3. Left: Deployment of the float WMO 4903829 from R/V SOCIB. Right: Deployment location and trajectory. Source: Argo Fleet Monitoring.

a)



b)



c)

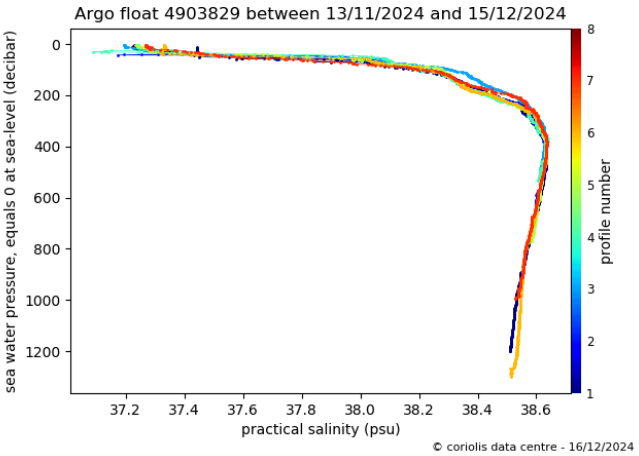


Figure 4. (a) The T-S diagram of the data collected by WMO 4903829. (b) Potential Temperature and (c) Salinity profiles. Source: Argo Fleet Monitoring.

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 4903829 dives up to 2000 m depth carrying out cycles of 125 h, 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 2. Configuration sheet for the float deployed during *SOCIB-IMEDEA EBAMAR Nov 2024* 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.