Argo-España
Parte de la estrategia global de observación del océano

Report on Argo floats during STOCA2408 cruise

ARGO ESPAÑA – IEO - SOCIB / 25 – 91

Argo float deployment for WMO 1902720 and 6990667

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1. Deployment design

Following the Argo program goals, the floats' density criteria calls for a 3º x 3º 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, IEO-CSIC (Instituto Español de Oceanografía – Consejo Superior de Investigaciones Científicas) planned the deployment of two core Argo floats in the Gulf of Cádiz, after some gaps in the network were identified.

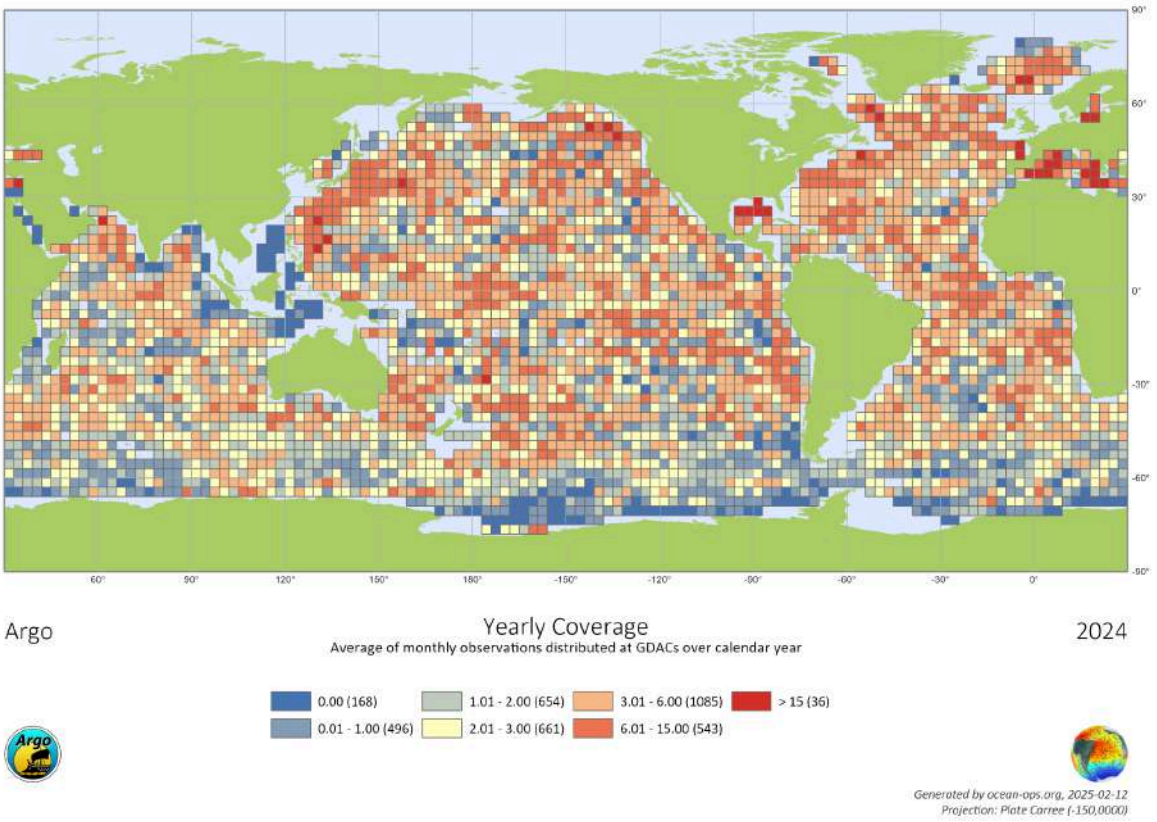

Figure 1. Density of Argo observations in the year 2024.

The STOCA2408 cruise was divided into 55 stations; two of them were selected for the deployments. The RV Ángeles Alvariño sailed between 35º N & 37º N and 5º W & 10º W (Fig.2). Researchers and technicians from the IEO - CSIC led the planning for the launch of the two mentioned floats.

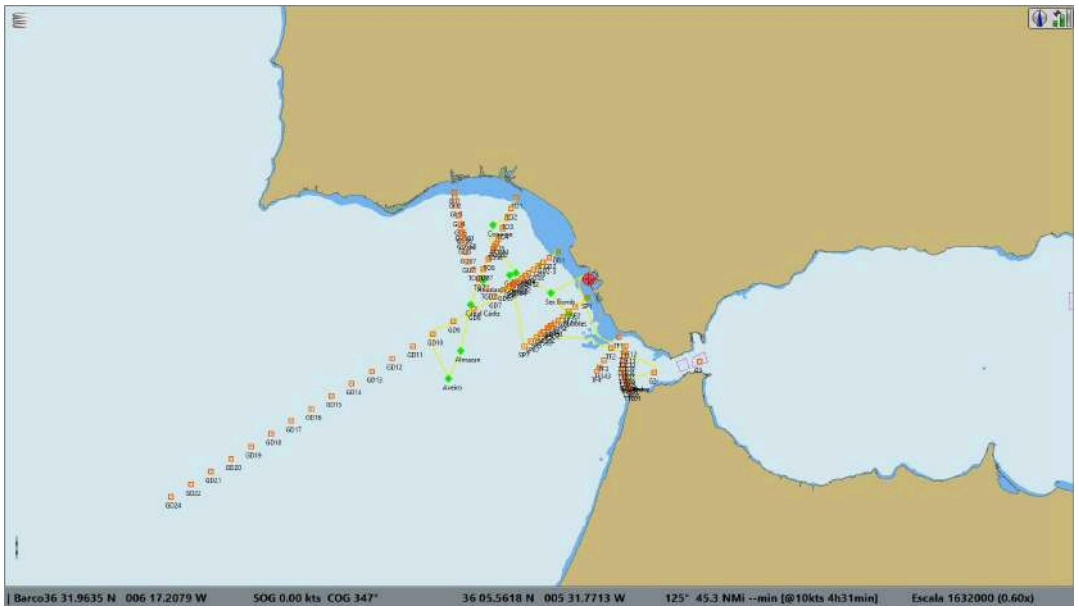

Figure 2. Deployment stations during STOCA2408 cruise.

2. Deployments' data

Information of the floats' deployment is shown next:

a. **WMO 1902720.** The following table contains all the data of the WMO 1902720 deployment during the STOCA2408 cruise. No troubled issues during the deployment were reported. A CTD cast at the deployment location is available (Fig. 3b). Coriolis was notified on Aug 28, 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/1902720.html

DATE AND TIME	25 – 08 - 2024 / 11:25 UTC
DEPLOYMENT LOCATION	36º 03.158098 N 7º 20.057336 W
DEPLOYMENT PLATFORM	R/V Ángeles Alvariño
CRUISE ID	STOCA2408
FLOAT OWNER	IEO-CSIC
PLATFORM TYPE	NKE ARVOR – I
SERIAL NUMBER	AI2600-24SP011
TRANSMISSION SYSTEM	IRIDIUM
PARKING DEPTH (m)	1000
PROFILE DEPTH (m)	2000
DEPLOYMENT DEPTH (m)	800
WEATHER CONDITIONS	Calm
DEPLOYMENT OPERATOR	Carmen González

Table 1. WMO 1902720 information deployment.

Figure 3a (left). Deployment maneuver of float 1902720 from R/V Ramón Margalef. Figure 3b (right), deployment location and trajectory.

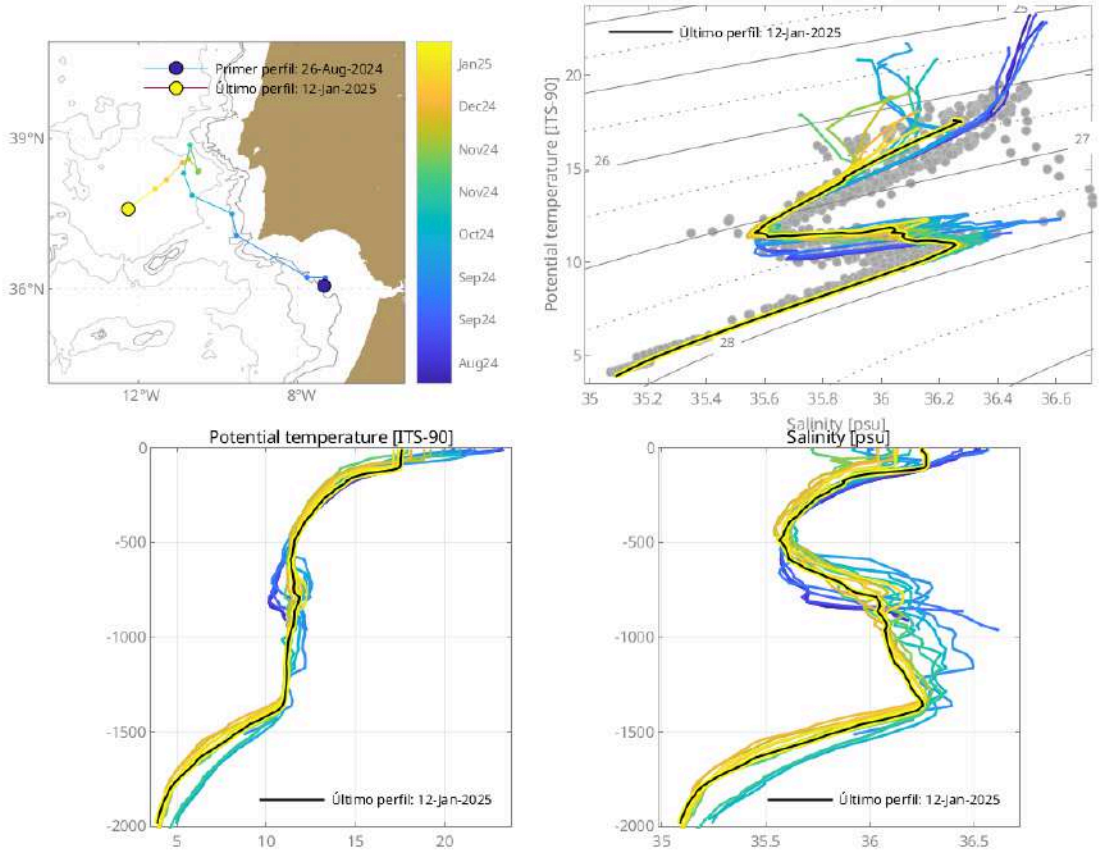

Figure 4. T-S diagram and temperature – salinity profiles from data collected by WMO 1902720.

b. **WMO 6990667.** The following table contains all the data of the WMO 6990667 deployment during the STOCA2408 cruise. No troubled issues during the deployment were reported. CTD cast is available at the deployment location. Coriolis was notified on Aug 28, 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/6990667.html

DATE AND TIME	26 – 08 - 2024 / 19:15 UTC
DEPLOYMENT LOCATION	36º 21.791223 N 07º 14.956097 W
DEPLOYMENT PLATFORM	R/V Ángeles Alvariño
CRUISE ID	STOCA2408
FLOAT OWNER	IEO-CSIC
PLATFORM TYPE	NKE ARVOR – I
SERIAL NUMBER	AI2600-24SP015
TRANSMISSION SYSTEM	IRIDIUM
PARKING DEPTH (m)	1000
PROFILE DEPTH (m)	2000
DEPLOYMENT DEPTH (m)	800
WEATHER CONDITIONS	Calm
DEPLOYMENT OPERATOR	Carmen González

Table 2. WMO 6990667 information deployment.

Figure 5a (left). Deployment maneuver of the float WMO 6990667 from R/V Ramón Margalef. Figure 5b (right), deployment location and trajectory.

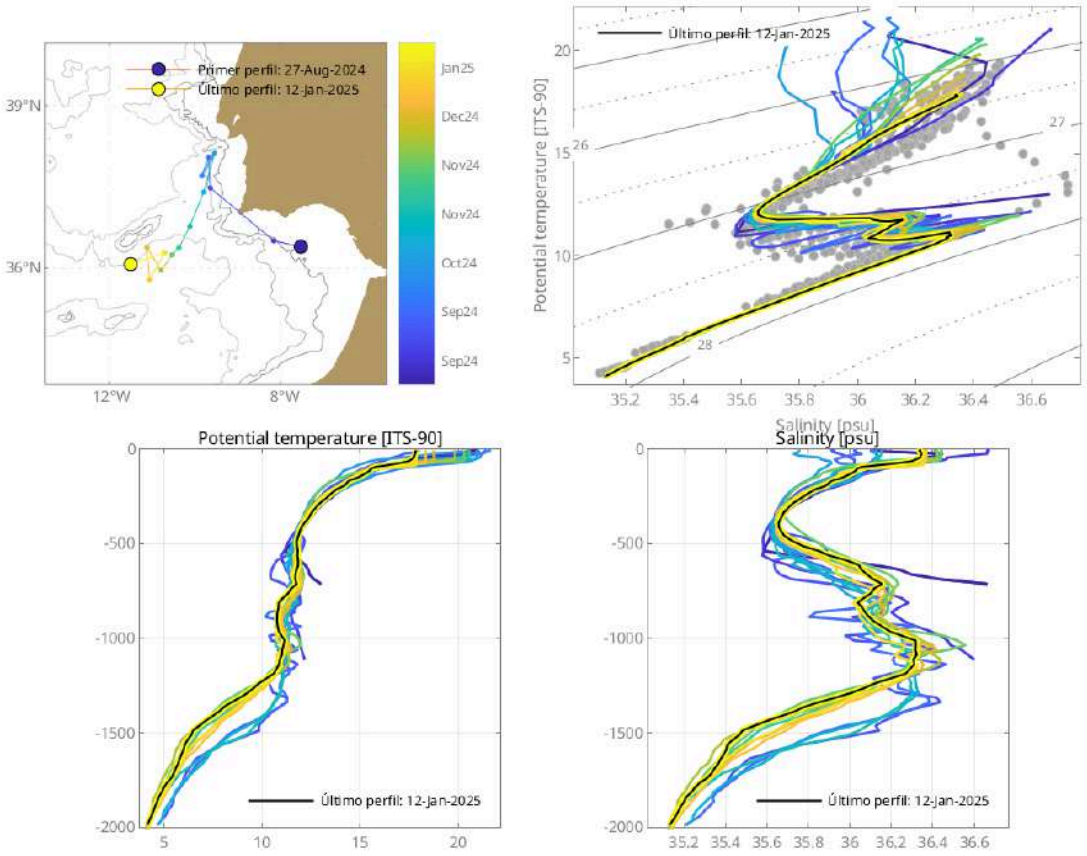

Figure 6. T-S diagram and temperature – salinity profiles from data collected by WMO 6990667.

3. Float configuration

"MC" parameters (table 3) were set according to the scientific requirements and the oceanographic study area. The core Argo floats were configured to dive up to 2000 m of profile depth carrying out cycles of 235 hours, with a parking depth of 1000 m.

Command no.	Name	Default Value	Units
Mission Commands			
MC0	Total Number of Cycles	300	Whole number
MC1	Number of cycles with “Cycle Period 1”	300	
MC2	Cycle Period 1	235	Hours
MC3	Cycle Period 2	235	Hours
MC4	Reference Day	2	Nº of days
MC5	Expected hour at the surface	6	Hours
MC6	Delay Before Mission	0	Minutes
MC7	CTD acquisition mode		
MC8	Descent Sampling Period	0	Seconds
MC9	Drift Sampling Period	12	Hours
MC10	Ascent Sampling Period	10	Seconds
MC11	Drift Depth for “MC1” first cycles	1000	dBar
MC12	Profile Depth for “MC1” first cycles	2000	dBar
MC13	Drift Depth after “MC1” cycles are done	1000	dBar
MC14	Profile Depth after “MC1” cycles are done	2000	dBar
MC15	Alternate profile period	1	
MC16	Alternate profile pressure	2000	dBar
MC17	Threshold surface/Intermediate Pressure	10	dBar
MC18	Threshold Intermediate /bottom Pressure	200	dBar
MC19	Thickness of the surface slices	1	dBar
MC20	Thickness of the intermediate slices	10	dBar
MC21	Thickness of the bottom slices	25	dBar
MC22	Iridium End Of life period	60	Minutes
MC23	2nd Iridium Session Wait Period	0	Minutes
MC24	Grounding mode (0= Shift, 1 : Stay grounded)	0	
MC25	Grounding switch pressure	50	dBar
MC26	Delay at surface if grounding at surface	1	Minutes
MC27	Optode type (0: none, 1 : 4330, 2 : 3830)	0	
MC28	CTD sensor Cut-Off pressure (Pump stop)	5	dBar
MC29	“In Air acquisition” cycle periodicity	0	
MC30	“In Air acquisition” sampling period	30	Seconds
MC31	“In Air acquisition” total duration	5	Minutes

Table 3. Configuration sheet sample for both floats deployed during the STOCA2408 cruise.

4. Acknowledgements

Argo España would like to thank the crew of the R/V Ángeles Alvariño and the IEO Cádiz staff, who cooperated for the success of the mission.