

# Argo-España



*Parte de la estrategia global de observación del océano*

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## **Report on Argo float WMO 6901280 - 6904065 deployment**

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Argo float deployment for  
**WMO 6901280 - 6904065**

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# 1. Deployment design

Following the Argo program goals, the float density criteria demands a coverage distribution of 3° x 3° 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 2 float deployments in the Balearic sea area after some gaps in the network were identified.

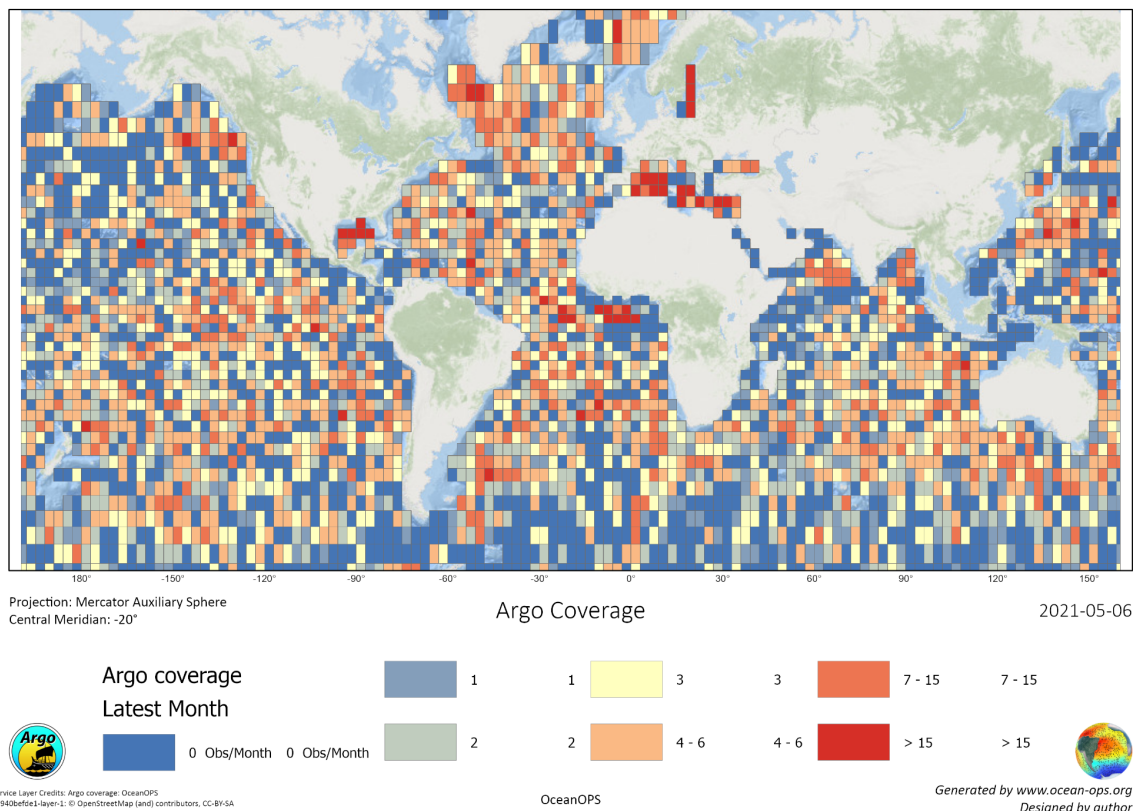


Figure 1. Density of Argo observations in 2020. Deployments in the South Atlantic Ocean are needed if density observations goals want to be reached

As PI of the *Canales Summer 2020* cruise, Inmaculada Ruiz (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.2). 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 S2\_05 and MED-S1\_05 were selected for the Argo

float deployments.

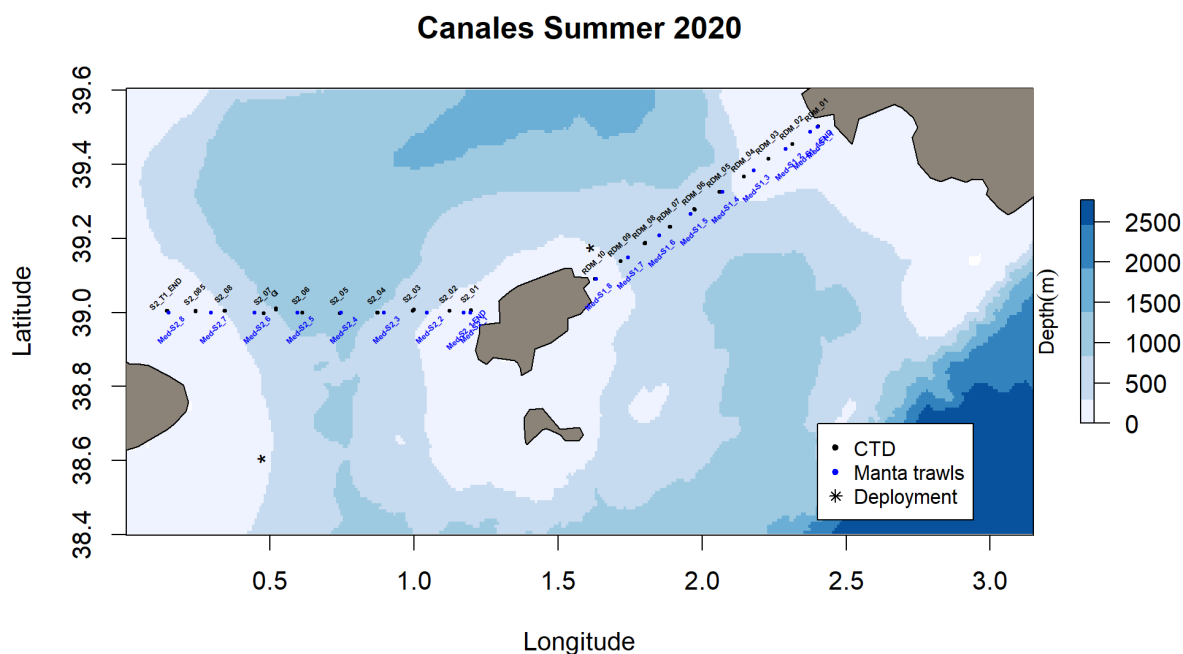


Figure 2. *Canales Summer 2020* cruise plan.

## 2. Deployment data

Following the Argo program goals, the float density criteria demands 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 2 float deployments in the Balearic sea area after some gaps in the network were identified.

Information of the float deployments is shown in these paragraphs.

- a. **WMO 6901280.** The following table contains all the data of the WMO 6901280 deployment during *Canales Summer 2020* cruise, deployed at S2\_05 station (Fig. 2). No troubled issues during the deployment were reported. CTD cast is available at the deployment location. Coriolis was notified on Aug 19, 2020 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/6901280.html>

<b>DATE AND TIME</b>	2020 - 08 - 12 / 11:02 UTC
<b>DEPLOYMENT LOCATION</b>	38°59,715'N 0°44,737'E
<b>DEPLOYMENT PLATFORM</b>	R/V SOCIB
<b>CRUISE ID</b>	<i>Canales Summer 2020</i>
<b>FLOAT OWNER</b>	SOCIB
<b>PLATFORM TYPE</b>	NKE Arvor - I
<b>SERIAL NUMBER</b>	AI2600-19EU022
<b>TRANSMISSION SYSTEM</b>	IRIDIUM
<b>PARKING DEPTH (m)</b>	1000
<b>PROFILE DEPTH (m)</b>	2000
<b>DEPLOYMENT DEPTH (m)</b>	960
<b>WEATHER CONDITIONS</b>	<i>0.1 m wave, sunny, no clouds</i>
<b>DEPLOYMENT OPERATOR</b>	Nikolaus Wirth

Table 1. WMO 6901280 information deployment.

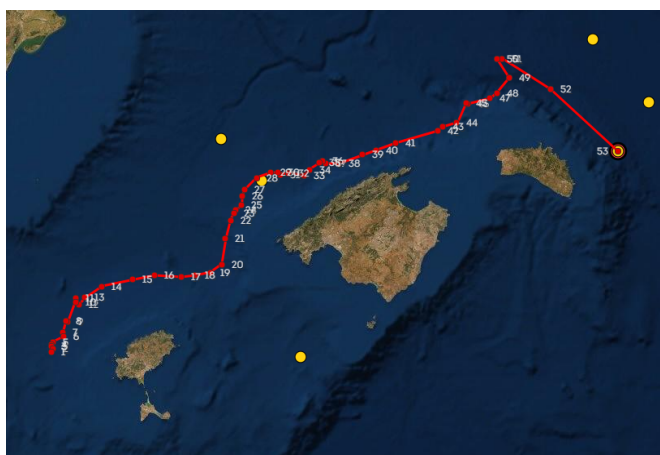


Figure 3 (a) and Figure 3 (b). Deployment maneuver of the float WMO 6901280 from R/V SOCIB (a). Deployment location (S2\_05, Fig. 2) (b).

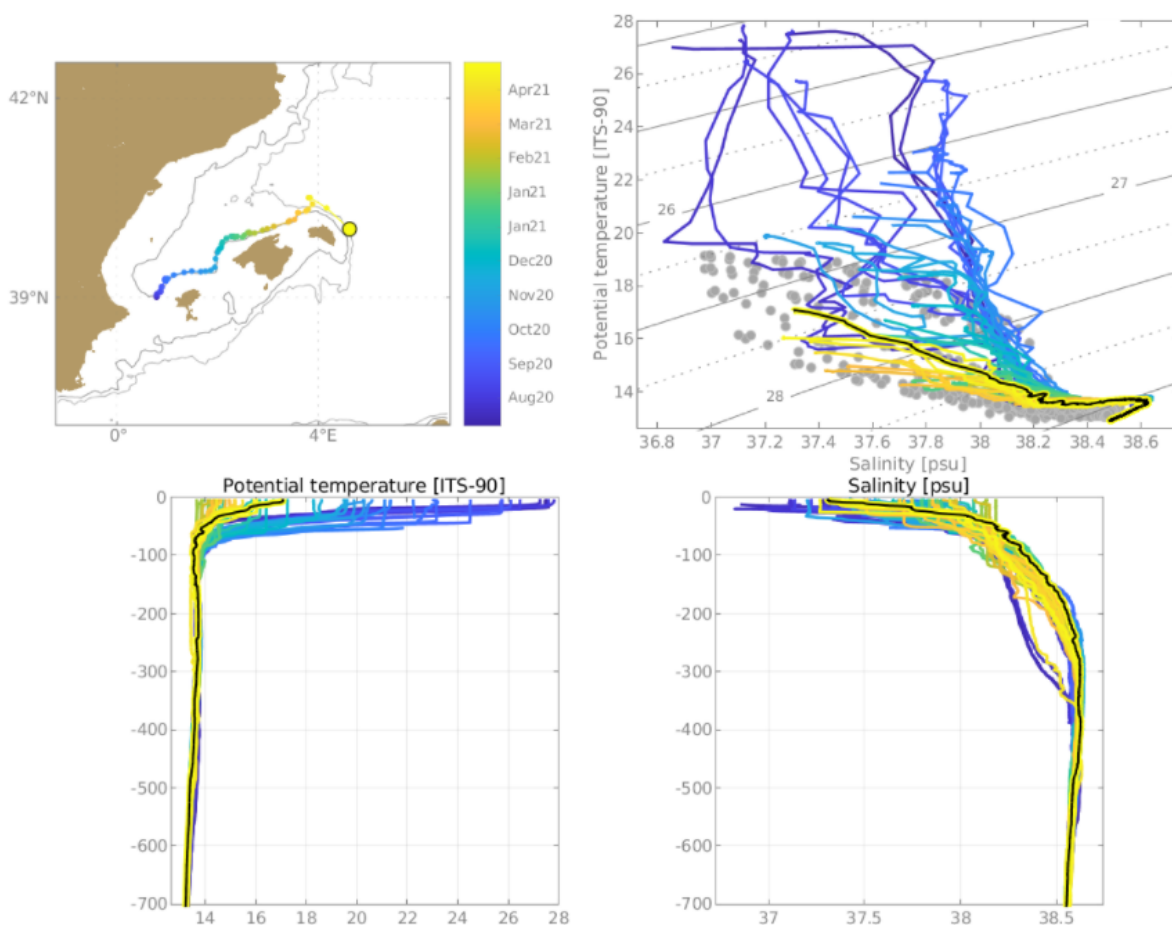


Figure 4. The trajectory of the float since the deployment is showed in the upper left side of the picture. T-S diagram of the data collected by WMO 6901280 is showed in the upper right side of the picture. The grey points are the climatology of the area. The black line is the first profile carried out 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 on the picture.

- b. **WMO 6904065.** The following table contains all the data of the WMO 6904065 deployment during *Canales Summer 2020* cruise, deployed at MED-S1\_05 station (Fig. 2). No troubled issues during the deployment were reported. CTD cast is available at the deployment location. Coriolis was notified on Aug 19, 2020 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/6901265.html>

<b>DATE AND TIME</b>	2020 - 08 - 14 / 10:43 UTC
<b>DEPLOYMENT LOCATION</b>	38°16,513'N 1°58,529'E
<b>DEPLOYMENT PLATFORM</b>	R/V SOCIB
<b>CRUISE ID</b>	<i>Canales Summer 2020</i>
<b>FLOAT OWNER</b>	SOCIB
<b>PLATFORM TYPE</b>	NKE Arvor - I
<b>SERIAL NUMBER</b>	AI2600-19EU021
<b>TRANSMISSION SYSTEM</b>	IRIDIUM
<b>PARKING DEPTH (m)</b>	1000
<b>PROFILE DEPTH (m)</b>	2000
<b>DEPLOYMENT DEPTH (m)</b>	595
<b>WEATHER CONDITIONS</b>	<i>0.1 m wave, sunny, no clouds</i>
<b>DEPLOYMENT OPERATOR</b>	Nikolaus Wirth

Table 2. WMO 6904065 information deployment.

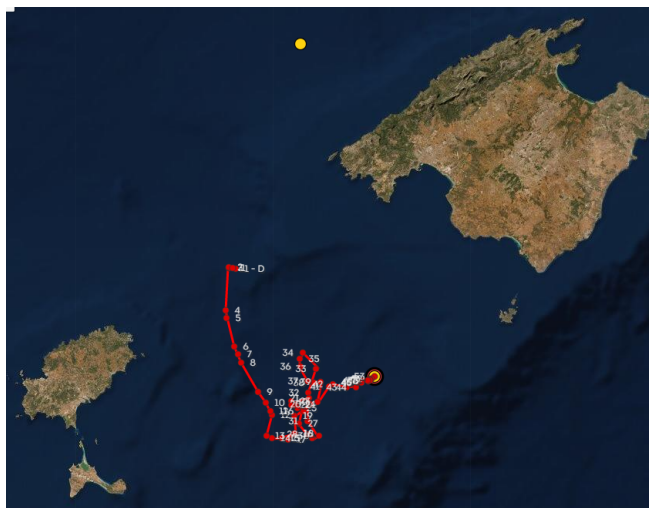
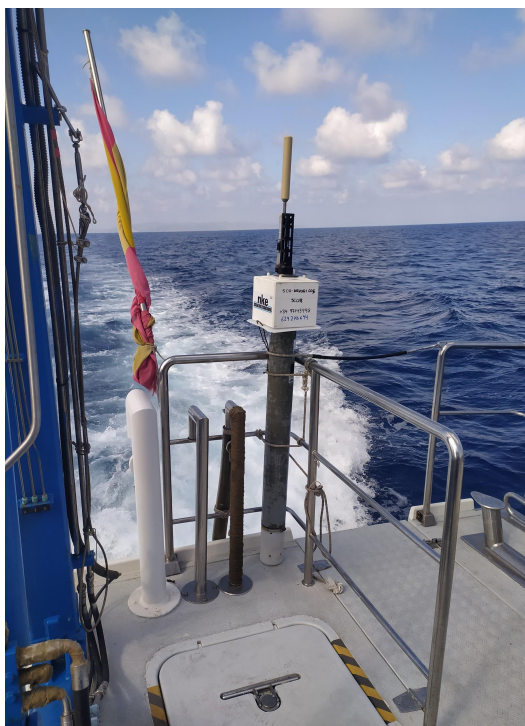


Figure 5 (a) and Figure 5 (b). Deployment maneuver of the float WMO 6904065 from R/V SOCIB (a). Deployment location (MED-S1\_05, Fig. 2) (b).

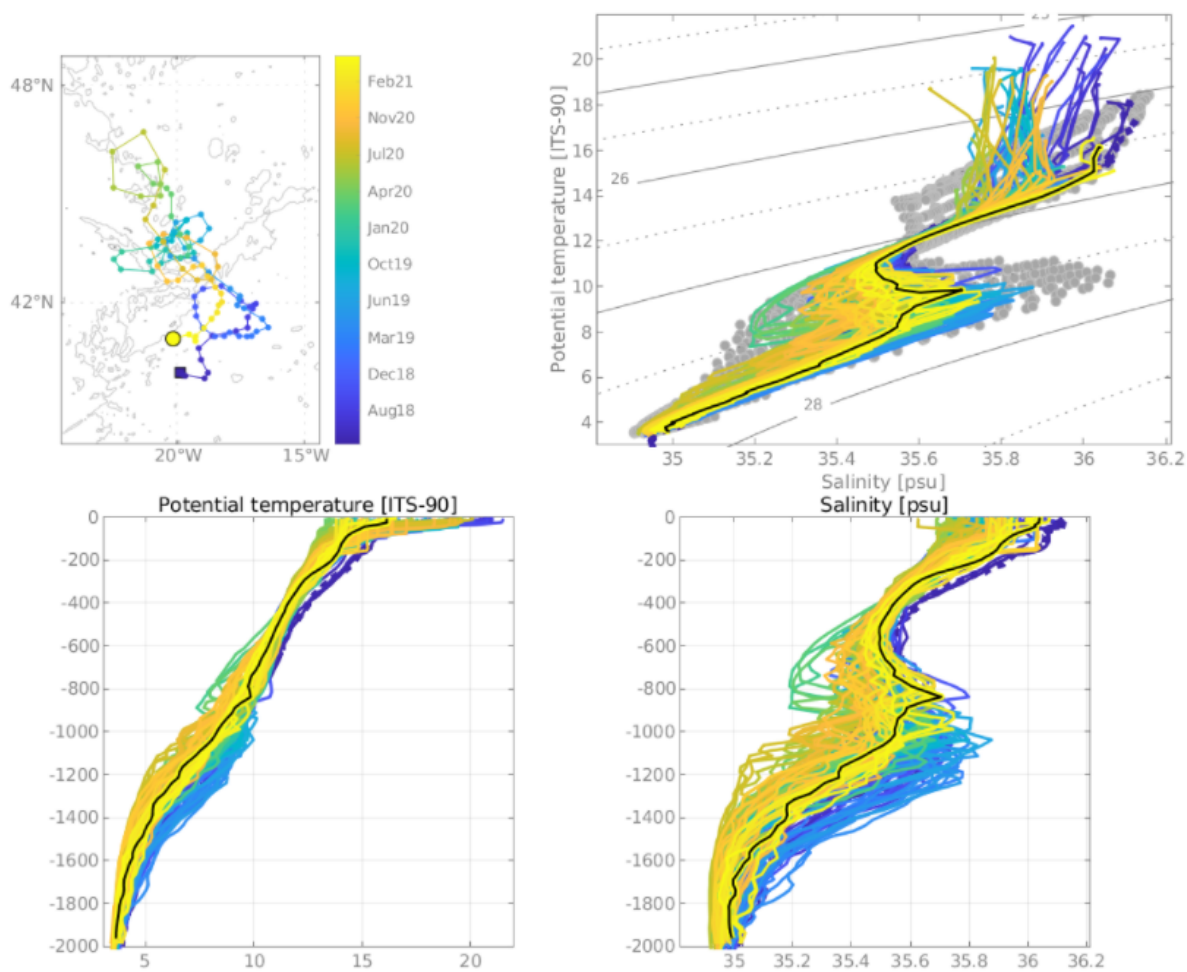


Figure 6. The trajectory of the float since the deployment is showed in the upper left side of the picture. T-S diagram of the data collected by WMO 6904065 is showed in the upper right side of the picture. The grey points are the climatology of the area. The black line is the first profile carried out 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 on the picture.

### 3. Float configuration

“MC” parameters (table 3) were set according to the scientific requirements and the oceanographic area of study (Balearic Sea). The floats WMO 6901280 and 6904065 dives up to 2000 m depth carrying out cycles of 120 hours, with a parking depth of 1000 m.

Command no.	Name	Values	Units
<b>Mission Commands</b>			
MC0	Total Number of Cycles	500	Whole number
MC1	Number of cycle with "Cycle Period 1"	500	
MC2	Cycle Period 1	120	Hours
MC3	Cycle Period 2	120	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	3	Hours
MC10	Ascent CTD sampling period	10	Seconds
MC11	Drift pressure 1	1000	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	400	dBar
MC18	Threshold Intermediate /bottom Pressure	1400	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	1440	Minutes
MC23	Time between 1st&2nd Iridium session(0=no 2nd session)	20	Minutes
MC24	Grounding mode (0=Shift, 1=Stay grounded)	0	
MC25	Grounding shift	50	dBar
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		
MC29	In air acq.: Periodicity of in air measurement (0=no acq., 1=acq. on each cycle, x=acq. on 1/x cycle)		
MC30	In air acq.: Sampling period		
MC31	In air acq.: Acquisition duration		

Table 3. Configuration sheet for the float deployed during *Canales Summer 2020* cruise.

### 4. Acknowledgements

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