

Argo National Data Management Report for ADMT-25(KMA/NIMS)

1. Real Time Status

NIMS/KMA is acquires Argos and Iridium messages in real-time via a web service from CLS. All profile data obtained undergo a real-time quality control process within the operational system before being transmitted to GDAC in NetCDF format using BUFR data.

In December 2024, a total of two Argo floats will be deployed in the Northwestern Pacific.

- How many floats are you currently processing & what type are they?

Float family	Number of versions	Number of floats* (*approximate)
APEX	-	-
ARVOR	2(ARVOR-L, ARVOR_I)	5
PROVOR	-	-
Navis	-	-
BGC Navis	-	-
SOLO/S2A	-	-
Deep SOLO	-	-
Deep Arvor	-	-
Other (customize additional rows as needed)	-	-

- How many different sensors are you currently processing?

Parameters	Type(s) of sensor for that parameter
Temperature/Salinity	SBE41CP
oxygen	-
NO3	-
pH	-
Chla	-
bbp	-
irradiance	-

New Sensors you have begun processing (either deployed in past 12 months or expected in the next few months)	Have all the Argo vocabularies been implemented to accommodate the sensor? (Yes, No, In progress)

- What is the status of BGC processing and RTQC test implementation? See here to get the version of manuals you are using to process and qc the BGC variables or : [Documentation - Argo Data Management \(argodatamgt.org\)](http://argodatamgt.org) If your floats **do not** include a listed parameter, please enter 'N/A' (Not Applicable); if your floats **do** include the listed parameter, but you have not yet implemented processing for this parameter, please enter 'N/I' (Not Implemented).

: No BGC Argo

- What is the status of RBR data processing (if applicable)? Are you adjusting salinity in real time? See [DACs with floats with RBR CTDs to implement real-time salinity adjustment as per QC Manual, and flag PSAL_ADJUSTED_QC = '1' in 'A' mode. Real time adjusted data can be distributed onto GTS - Issue #55 - OneArgo/ADMT \(github.com\)](https://github.com/OneArgo/ADMT)

: No RBR sensor

- Are you regularly applying real time adjustments for the following items:
 - Salinity adjustments
 - Cpcor for deep floats
 - BGC parameters (if so, which ones)

	Yes/No for current R files	Are you going back to make adjustments on all available R files when new adjustment comes in?	Notes or additional information
Salinity adjustment	Yes	If possible	
BGC parameter	No BGC Argo		

- What data are you sending onto the GTS? [Core Argo data](#)
- What data is going to the aux directory? [None](#)
- Are you automatically greylisting questionable floats detected by min/max test?
: [Not yet. The delayed mode operator is working to check for questionable floats not only by the min/max test but also by examining the vertical structure and T-S structure](#)
- What is the status of the transition to v3.2 trajectory files?
[We are still using v3.1 trajectory files and do not have any plan to change that at any time soon. Such a transition needs some extra funding under our Argo data management system. So, it would take at least a couple of years.](#)
- When do you think you will be ready to stop acceptance of v3.1 Btraj files? [No BGC Argo](#)
- Do you have any code to share with other DACs? If so, where is that available? [No](#)

2. Delayed Mode QC status

This section of the report is for reporting on the status of DMQC in your country and is the place to share your progress, your challenges, your concerns and any links to shareable tools or code. The following questions to help guide you:

- What is the status of delayed mode trajectory files? Have you created any dmode trajectory files? If not, what are the reasons? If you have, would you be interested in sharing your experiences with others?

We haven't created any dmode trajectory files yet, as we are awaiting a formal QC procedure and/or a kind of software to help it.

- How are you implementing BGC dmode - by parameter or one expert does all parameters?

There is currently no active BGC float.

- What challenges have you encountered and how have you dealt with them?

We are actively deploying Argo floats in the continental shelf areas, such as the Yellow Sea and the East China Sea. Some of these floats have exhibited salinity offsets from the moment of deployment, a problem also reported by JAMSTEC. So, we assess the offsets using shipboard CTD data taken right before or after the float deployment. We believe these initial salinity offsets in some of the shallow Argo floats might result from the conditions during shipment or storage. These floats operate at shallow parking depths of less than 100m with short cycle times (approximately 1~2 days) and last only several months due to the shorter cycle times than that of the open ocean floats. Because of their shorter lifespan, most of them keep the initial salinity offsets rather than a gradual drift. In fact, it is hard to identify such a small gradual drift in the context of dramatic salinity variation in the shallow water area.

Furthermore, the Yellow Sea and East China Sea, with wide continental shelves, have smaller temporal and spatial scales of salinity variability compared to the open ocean. Therefore, it is important to conduct shipboard CTD measurements for identifying the initial offsets when a float is deployed unless a laboratory facility to evaluate the salinity offset is available.

Although Argo floats are supposed to be used in the open ocean, they are extremely useful in the coastal areas, especially where multiple countries share with. Since actively steered platforms like OceanGliders, cannot trespass to other countries' borders line, their observations cannot be limited to the the EEZ area. Thus, because coastal Argo floats are still valuable for our country, we plan to develop cost-effective coastal Argo floats - expected to be 70% cheaper than the core Argo floats- within a couple of years.

- Do you have any code or tools you'd like to share with other DM operators? If so, where is that available? No
- Do you have any concerns you'd like to bring to the ADMT?

Yes, one concern is the lack of standardized software across different platforms and operators. Aside from the OW software, there are a couple of software (as far as I know) to help the DM operators generate or update D-files. They seem neither standardized nor frequently updated. While they have been helpful in understanding how to update D-files, such as writing NC files with Matlab or updating QC flags, etc., there are several unclear steps, such as filling up all variables related with 'HISTORY' and 'CALIBRATION' info. It would be very helpful if there is an Excel format to fill up all other information for D-files and software to read the Excel files and to update them in D-files.

The variability in software tools used for quality control and data processing can lead to

inconsistencies in results. This makes it challenging to ensure uniformity and comparability across datasets. A more unified approach, or at least clearer guidelines, would be beneficial to minimize discrepancies and improve overall data integrity. The most effective solution would be to develop a single software platform in a cloud-based system to assist DM operators. This would eliminate the need to download new data over several days, allowing for more efficient and timely updates.

3. Value Added items

- List of current national Argo web pages, especially data specific ones
- Known National Argo data usage
 - Please list known operational centers using Argo data in your country in this table:

Operational center	Contact (name, email), if known	What data do they use? (for example, core, BGC, all profile data, trajectory data)
KMA/NIMS (http://argo.nims.go.kr)	Baek-Jo Kim(swanykim@korea.kr) Hyerong-Jun Jo(hjjo543@korea.kr)	Core, all profile data(NetCDF, txt)

- Products generated from Argo data that can be shared
- Publicly available software tools to access

4. GDAC Functions

: N/A

5. Regional Centre Functions

: N/A

6. Other Issues

Please include any specific comments on issues you wish to be considered by the Argo Data Management Team. These might include tasks performed by OceanOPS, the coordination of activities at an international level and the performance of the Argo data system.

We deployed ARVOR_I(iridium Argo) for the first time this year, So the data processing was delayed. It is almost complete for now, so we'll process it in real-time from next month.

Three floats were deployed in the YS and ECS from June to July, 2024, with a parking depth of 60m and two-day profiling scheme for shallow sea observation(Figure 1). All floats deployed using the GISANG 1, the KMA's research vessel, could obtain the profile from the starting day.

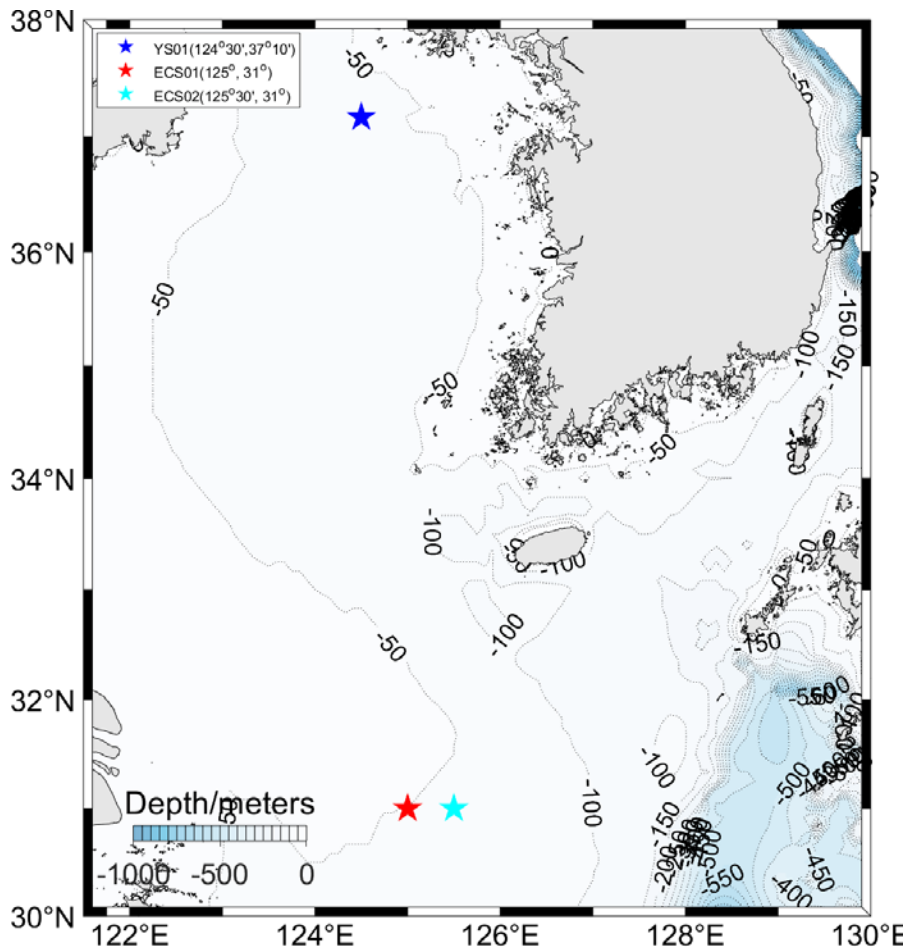


Figure 1. Deployment points of Argo floats in the Yellow Sea and East China Sea in 2024.