

Argo Deployment Planning and Notification

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1. Background

Rational planning is fundamental to implement and maintain an international array of 3000 platforms and to comply with the [IOC Resolution XX-6](#) requirements:

(...) concerned coastal states must be informed in advance, through appropriate channels, of all deployments of profiling floats which might drift into waters under their jurisdiction, indicating the exact locations of such deployments (...)

IOC and WMO have invited in 2000 (via a circular letter) member states to designate an Argo national focal point that would receive such information.

[Current List of Argo Focal Points](#)

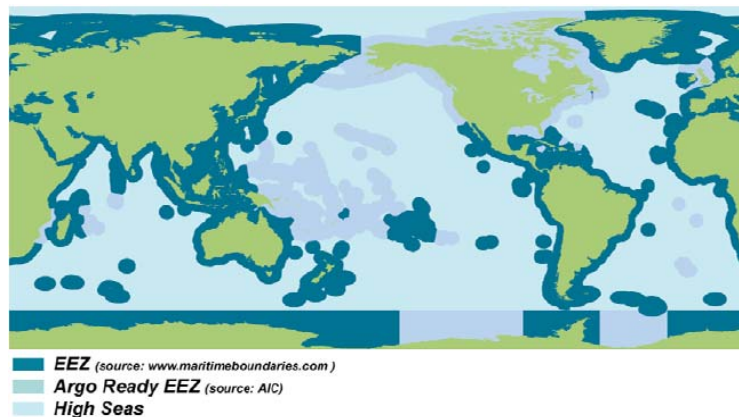
The Argo Science Team and the IOC Executive Secretary then took step to establish an Argo Information Centre, and staff it with a Technical Coordinator, to implement that requirement.

A notification system has been implemented by the AIC and is operational since July 2001 and rigorously applied by all Argo programmes for all floats deployments (**condition *sine qua non* to be part of Argo – data sharing as well**).

=> i) No clearance is required for float deployments in High Seas

=> ii) All float deployments (in High Seas or into EEZs) have to be notified

=> iii) All float deployments into EEZs require prior clearance (UNCLOS art. 247), except for countries that globally concurred for float deployments into their EEZs. See below:



Remark: iii) is based on the definition of Argo as Marine Scientific Research.

Some countries disagree with that view and see Argo as fully operational and so, not falling under the art. 247.

A centralized mechanism for the notification of 1000 deployments per year was then set up by the AIC. All deployment plans are recorded in the AIC database through a web form, and an email is generated to the NFPs.

Note that for practical reasons, “appropriate channels” have been interpreted by “email”.

Note that a few countries would prefer a bilateral notification, through official letters.

This means heavy bureaucracy

Hence, an additional and exceptional procedure is possible if and only if country requests it: If a float drifts into an EEZ or enter an area where the probability to drift into the EEZ is high, then the IOC Executive Secretary (from the AIC initiation) sends a letter to foreign affairs of the concerned country.

See <http://ioc.unesco.org/abelos> for more information on Law of the Sea issues.

2. Deployment Planning & Notification

Every Argo programme has designated a “Local Coordinator” responsible for that notification procedure. See Annex 1 for the current list of Argo programmes and their LC.

This procedure is the heart of the AIC information system. Essential metadata are gathered through the procedure, which permits to provide an accurate status of the network. This can explain its success. Oceanographers have seen the benefits for the programme coordination itself or for their contribution and not only for the compliance with international rules.

About 4000 floats deployments have been notified through this system so far.

Important: When you notify a deployment, you engage the responsibility of your country, as IOC member states and signatory to the IOC Resolution XX-6.

- The AIC responsibility is to develop and maintain the procedure
- The AIC is not responsible for the content
- The AIC performs however some “quality control” on the metadata gathered

Different steps are required to properly plan and notify a float deployment. Only one is mandatory. Others are highly recommended.

Step1: Regional Planning (6-12 months in advance)

- Record draft deployment plan through the interface
- Update it as required by the regional coordination process (*)

Minimum required:

ID (any)
PROGRAM
COUNTRY
DATE
LAT
LON

Step 2: Formal Notification (in advance) - Mandatory

- Record deployment plan information through the interface (if not done)
- Notify the deployment plan through the interface

Minimum required:

WMO ID
TELECOM ID, TELECOM TYPE
PROGRAM
COUNTRY
DATE
LAT
LON
PLATFORM MODEL
CYCLE TIME
PROFILE PRESSURE
PNP
BATTERY TYPE

Step 3: Final Update (Cruise feedback)

- Update and/or re notify record if important changes occurred.

(*) Regional Coordination Process:

Regional Coordinators have been designated by the AST to optimize the deployment strategies per basin, and hence prevent possible overlaps or share deployment opportunities, targeting the 3° x 3° array.

If you perform step1, you will help regional coordinators in their task.

Regional coordinators will be able to eventually use the global information compiled at the AIC.

3. Web Interface

Bookmark: <http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/notification>

Information on deployment plans is accessible to all in read-only mode.

Anyone can receive a copy of the notification emails. => [Contact the AIC](#)

Only Local Coordinators logged in can write in the system (add plans - modify their plans and only their plans)

Login

Login panel is at the top right page.

Once logged in, you can modify your details by clicking on your name (top right).


If you forgot your login/password details go in the “[Contact](#)” section to retrieve it.

Allow cookies and you won't have to log in each time.

Display Plans (bi-daily update)

List of deployment plans recorded in the system, grouped by ocean basin.

List can be ordered according to any column: use ☰ icon.

Click on  for more details on a specific plan

Simple map of deployment plans

[Link to interactive Map](#)

Remark: update is every 12 hours because some routine checks are performed by the system, and status files and GIS files are updated.


When the tracking of the float starts (or when the plan is declared deployment failure) the plan is removed from this list (but still visible in the Plan search engine).

All these details are compiled in “weekly reports”.


Search for plans (real-time update)

Cross all criteria you need to find some records and press “Search”.

=> A list of records is generated

Click on  for more details on a specific plan.

List can be ordered according to any column: use ☰ icon.

Click on  to modify a record. This icon will appear only if you are logged in and only if this is your plan.

Any record you enter in the system or modify will be immediately visible here.

If the record has not been notified then the button “Notify” appears.

Just click on it to generate the notification email.

Notify a new Plan

This is where you load the plans, individually.

Just fill the form. Take care to mandatory fields (*)

Other fields are very important for the programme monitoring.

If a mandatory field is blocking you (e.g. you don't have a WMO Id), use a fake value.

“Save” will record your plan in the database

”Save and Notify” record your plan in the database and generate a notification email.

If needed when this is done you can use the “Search for Plans” feature to check your plan was properly recorded.

Load Draft Plans

This feature is under validation and is not enough stable to be added now but can be performed by the TC.

Send me your draft plans (text file, excel table, etc) and I will preload them in the system.

This is interesting if you plan tens of deployments at the same time.

Delete a Plan

Contact the TC.

Additional Resources:

Bi-daily text file

<http://w3.jcommops.org/FTPRoot/Argo/Status/plans.txt>

Bi-daily GIS shapefile

http://w3.jcommops.org/FTPRoot/Argo/Status/ShapeFile/plans.*

Bi-daily Planning Map (e.g. to include on your website):

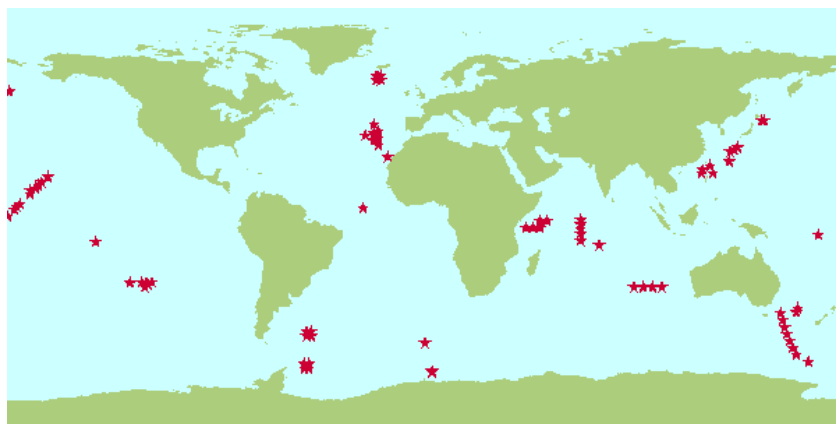
You can add the arcIMS service in your system from <http://w4.jcommops.org>

Select the Map Service “Argo”.

=> India, France, UK can easily integrate this information in their GIS:

Or you can use the Web Map Service (WMS) under development, to generate a simple map on the fly:

<http://jcomm.cls.fr/wmsconnector/com.esri.wms.Esrimap?request=getMap&ServiceName=Argo&Service=wms&Version=1.1.1&Layers=0,10&bbox=-180,-89,180,89&width=600&height=300&Format=image/png&SRS=EPSG:4326&EXCEPTIONS=INIMAGE>

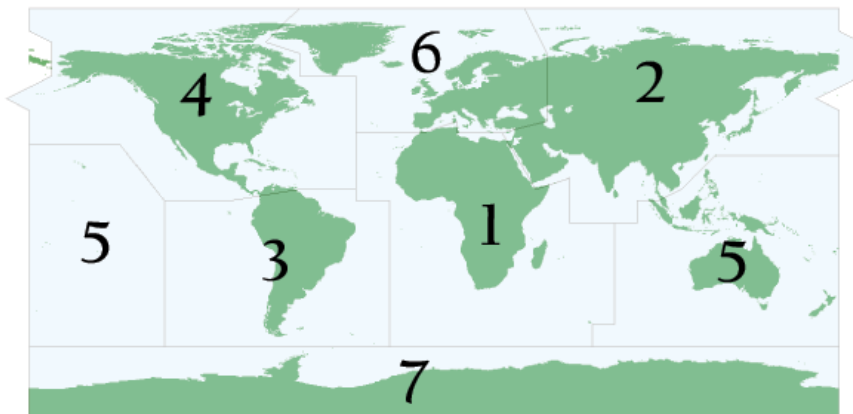


4. Questions & Answers

Q) I don't know in advance in which WMO Area I will deploy my float so I can't allocate an Id in advance

A) Please don't try to respect this convention based on continents and not ocean basins.
The important point in the WMO Id is its uniqueness.

=> **There is no need to consider the WMO areas if they are a problem for your planning**
=> **Get WMO ids in advance**



WMO Areas for Argo Floats

If you plan to deploy a float in the middle of the Indian Ocean let me know which area you choose: 1, 2 or 5 ... good luck.

Q) We don't pre-notify because we need to order WMO allocations in order of deployment date.

Can I completely re-do a notification and reassign the numbers after deployment?

A) You can modify any element when you want: before and after deployment.
- search for your record using "Search for Plans"
- make sure you are logged in so you can see the edit icon (little hand) appearing near your record

Q) You mention that we could enter multiple floats in an ascii format. How do we do that?

A) Send me your list directly. Then you will go on line to check everything is fine and eventually update a few records.

I am working on a netCDF loader too.

Q) The time required to do the notifications is also significant ...

A) Well 2 min per notification on average (I just checked the consecutive notification emails time difference).

This may vary with your Internet connection/traffic.

I will work to improve it.

I use the interface myself too and did it last month with 50 records to assist a busy PI.

It is clear that if you have to save 100 records you can't put all details and you eventually need an initial loading.

If it is a few ones every month you can take your time to do it properly

Q) I don't have my WMO Id yet, how can I record my plan?

A) You should have them....they are free and you can ask for hundreds of Ids in advance.

If however you don't have them, use fake WMO ids. It is better than nothing.

If it is your condition to notify in advance, please do.

Follow the example of Kenya or UK using temp. WMO Ids: WMO = UK200701, or WMO = 5900XXX.

This is temporary and once you get them, update with the real WMO (or telecom) ids.

Important

- The system checks the uniqueness of your WMO Id and will generate an exception if this Id is already used.

- Make sure that around 1st pop up time, the couple (TELECOM ID / WMO ID) is right in the AIC database. If there is a mistake I will notice it and report it in my "weekly report".

Q) If I use the global search engine or the platform search engine I don't find my plan record.

A) You can find you plan record in the "Planning" search engine. Not in the global or Platform search engine.

Every 2 weeks, Argo TC checks all plans and tries to start the tracking of the floats.

If a first good location is received then the tracking can start and a platform is created.

When we reach "deployment date +1 or 2 months" and if I still can't start the tracking then I will declare this float as inactive => deployment failure.

All my actions are compiled in "weekly reports".

So you can give feedback and confirm or not it was a deployment failure.

When a platform is created (and by the way linked to your plan), if you search it with the plan search engine you will see in the list of results that the WMO id will be clickable to reach the float detail page.

However the plan record will be removed from the plans.* files and from the list generated by "Display Plans".

But it will appear in deployments.* (official deployments) , and in status.* or dead.* (active or inactive floats).

NB: it might be useful you use the float search engine for your program with lifetime / "age=0 to 0"

So you can check the list of your deployment failures and report eventual inconsistencies.

Q) The plan recorded has finally not been applied.

A) If your float has not been deployed you have to:

- ask the AIC for deletion of the plan if float will never be deployed
- or
- change the deployment date in case deployment was just postponed

However, If you don't confirm that this float has never been deployed, it will count as a deployment failure and impact your reliability statistics. (See previous Q/A)

Q) It is easy to send text file (and updates) to regional coordinator but it is harder to notify.

A) Finally you don't really need to do both.

If you record the draft plans in advance, then no need to send text file to regional coordinators.

There will be a unique text file for all basins, always up to date, that regional coordinator will use.

Regional coordinators will focus on the implementation strategy and won't lose time to gather this information from various sources.

Annex 1: Argo Programmes and Local Coordinators

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Remarks:

- Some of these contributions are terminated
- Please correct any element if needed
- If the practical task of notification is delegated to someone else please let me know.

E.g. :

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G.Parilla => Pedro Joaquín Vélez Belchi, pedro.velez@ca.ieo.es

In some cases I am the one that is taking on the work (e.g. MEDARGO).

In that case send me your plans regularly or proceed yourself to the notification.