

Argo Information Centre Report

Submitted by the Argo TC, M. Belbeoch
ADMT #8, November 2007

| | | |
|----|--|----|
| 1. | Background..... | 2 |
| 2. | TC Activities..... | 3 |
| 3. | Information System..... | 4 |
| 4. | Data Management..... | 8 |
| 5. | International Issues..... | 10 |
| 6. | Planning..... | 12 |
| | Annex: Latest AIC Monthly Reports..... | 12 |

1. Background

The international Argo Information Centre (AIC) is participating in the activities of the Argo Project Office and of the JCOMM in situ Observing Platform Support centre (JCOMMOPS).

The AIC is funded on a yearly basis via voluntary contributions from the United States, Canada, France, Australia and the United Kingdom.
In 2007 **China, India, and Germany** also began providing funds for the AIC.

2. JCOMMOPS

The JCOMM in-situ Operating Platform Support centre is the natural outcome of international coordination mechanisms which began in 1985 with the Data Buoy Cooperation Panel (DBCP). It was implemented in conjunction with the Argo Information Centre (AIC) in Feb. 2001, to develop the synergies that exist between the coordination structures that had been established under the WMO and IOC of UNESCO, for the DBCP, the Ship of Observation Team (SOT), and the Argo pilot project.

JCOMMOPS was formally established by JCOMM I in 2001.

Synergy was therefore achieved between these three global marine observational programmes to assist, at the international level, those in charge of implementing their National components.

JCOMMOPS is a component of the international coordination mechanism, which aims on behalf of JCOMM to:

- develop **synergies** between observing systems
- assist in the **planning, implementation and operations** of the observing systems
- **monitor and evaluate** the performance of the networks
- encourage **cooperation** between communities and member states
- encourage **data sharing**
- assist in **data distribution** on Internet and GTS
- relay users **feedback on data quality** to platforms operators
- provide **technical assistance and user worldwide support**
- act as a **clearing house and focal point** on all programmes aspects

More general information on <http://www.icommops.org>

Today, JCOMMOPS faces the challenge of strengthening its infrastructure, integrate the existing services better and eventually extend its operations to new observing systems.

A JCOMM Joint Circular Letter invites institutions interested in hosting a JCOMM Observing Programme Support Centre (OPSC) to submit a "Letter of Intent" to IOC or WMO (deadline: 15/11/2007)

3. TC Activities

In 2007 progress has been made on the following issues:

- Improve Argo implementation monitoring and planning:
 - o upgrade and document the notification mechanism
 - o develop new products (maps, statistics, GIS data layers, web pages, text file exports, etc)
- Improve Argo Data distribution monitoring:
 - o New set of (dynamic) statistics on real-time and delayed-mode profiles
- Improve monthly reporting to PIs/Programmes Managers, float operators and data managers.
- Upgrade the JCOMMOPS information System:
 - o New server installed and configured
 - o Software upgrade (in particular the GIS)
 - o Routine scripts and procedures reviewed and rationalized (in particular the GIS data layers update)
- Finalisation of the new AIC website

Other tasks are on-going (see ADMT#7 Report).

The monthly report continues to be enhanced and improved each month. Operators have regularly provided feedback to the AIC between the reports (See annex).

It is to be noted that the effort required assisting in retrieval of beached floats and preparation of donor programmes has increased.

The work load regarding JCOMMOPS issues has naturally grown up since 2001.

The Argo co-chairs have recognized the TC growing responsibility in developing and operating JCOMMOPS, and have agreed to update the TC Terms of Reference to reflect this change in scope.

2007 TC Missions:

1st Argo Training Sessions, Accra, Ghana

Visit Ifremer / IRD / Meteo France (with TC DBCP), Brest, France

EURO Argo, and North Atlantic Argo Regional Centre #2 meetings, Brest, France

Argo Steering Team#8, IOC, Paris, France

ABE-LOS #7, Libreville, Gabon

JCOMM OCG, Geneva, Switzerland

Proposed Missions for 2007-2008:

Visit new Argo contributor **SIO/SOA, Hangzhou, China (done)**

Visit new Argo contributor **INCOIS, Hyderabad, India**

Visit new Argo contributors, **Germany**

GEO Ministerial Summit, Cape Town, South Africa

Argo workshop, Rabat, Morocco

ABE-LOS inter-sessionnal workshop, Washington, USA (done)

Argo Data Management Team#8, Hobart, Australia

Argo/DBCP Training Session, West Africa

Argo Steering Team #9, Exeter, UK

4. Information System

General issues:

In 2007 a new server was set up and has brought the JCOMMOPS Information System onto an improved IT configuration.

Discussions are being held with CLS (JCOMMOPS host) to strengthen the operational status of the system, developing monitoring and warning tools, and clarify the means required to maintain the system. This is done keeping in mind the possible relocation of JCOMMOPS.

The AIC website is gradually improved and has reached a stable state.

Home | Project Office | Project Status | R/T Map | Notification | Find Floats | Brochure | Toolbar

username: Ok on-line: 26

2918 Active Floats.
Target: 3°x3° Array
(~3000 Floats)
97%

Argo Information Centre
jcommops

IMPLEMENTATION | MONITORING | MAP ROOM | INSTRUMENTATION | DATA

Welcome to the International Argo Information Centre.
A source of information on the progress of the Argo project and a component of JCOMMOPS, JCOMM In-situ Observing Platform Support Centre.

NEWS
GOSIC website, Aug 31
Float of the month - August 2007: Southern hemisphere eddies, Aug 01
Argo & Google Earth - Update, May 21
Cooling or not cooling? May 15
CSIRO Postdoctoral Fellowship - Southern Ocean Processes, May 10
New annual contribution to the AIC: China, Apr 27
The Argo Toolbar, Apr 26
The Scholar Ship Research Institute Programme in Oceanography, Mar 12
POGO-SCOR Visiting Fellowship Programme for 2007, Mar 09
Argentina launched a public awareness/capacity building initiative, Mar 01

MEETINGS
Argo Data Management Team #8, AUSTRALIA, 14/11/07-16/11/07
GEO Ministerial Summit, SOUTH AFRICA, 30/11/07-
AST #9, UNITED KINGDOM, 17/03/08-20/03/08

The Argo project is supported by :

ARGENTINA - AUSTRALIA - BRAZIL - CANADA - CHILE - CHINA - COOK ISLANDS - COSTA RICA - DENMARK - ECUADOR - EUROPEAN UNION - FIJI - FRANCE - GERMANY - ICELAND - INDIA - INDONESIA - IRELAND - JAPAN - KENYA - KIRIBATI - KOREA (REPUBLIC OF) - MARSHALL ISLANDS - MAURITIUS - MEXICO - MICRONESIA, FEDERATED STATES OF - MOZAMBIQUE - NETHERLANDS - NEW CALEDONIA - NEW ZEALAND - NIUE - NORWAY - PAPUA NEW GUINEA - RUSSIAN FEDERATION - SAMOA - SOLOMON ISLANDS - SOUTH AFRICA - SPAIN - TOKELAU - TONGA - TUVALU - UNITED KINGDOM - UNITED STATES - VANUATU -

AIC Copyright 2001 - 2007
Version : 2.2.4

The AIC Homepage: <http://argo.jcommops.org>

Argo Implementation:

- **Planning & Notification:**

This core function of the AIC has been reviewed, improved and [documented](#) with the aim to provide a global and regular view on the Argo planning, up to a year in advance.

This information is vital for:

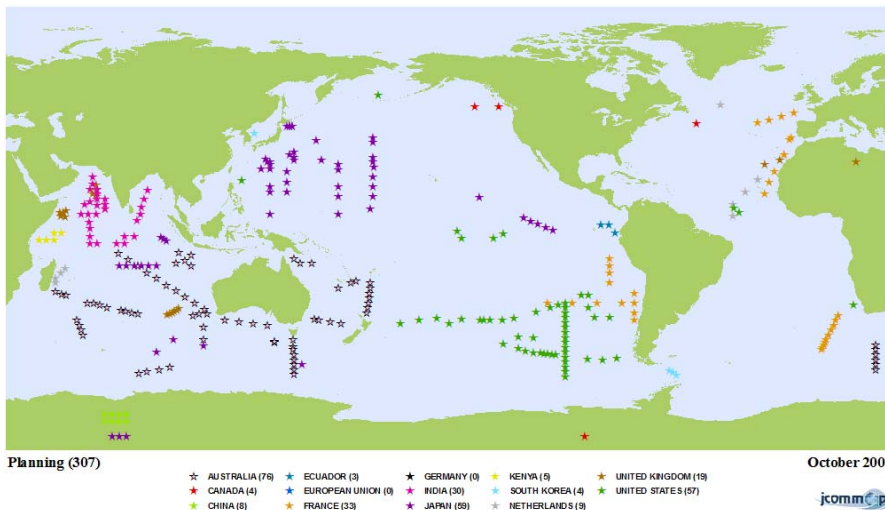
- The implementation and maintenance of the global array
- The project transparency and accordance with international rules
- The cooperation within Argo and with other panels (e.g. DBCP)

Careful planning should contribute to making Argo an operational and sustainable programme.

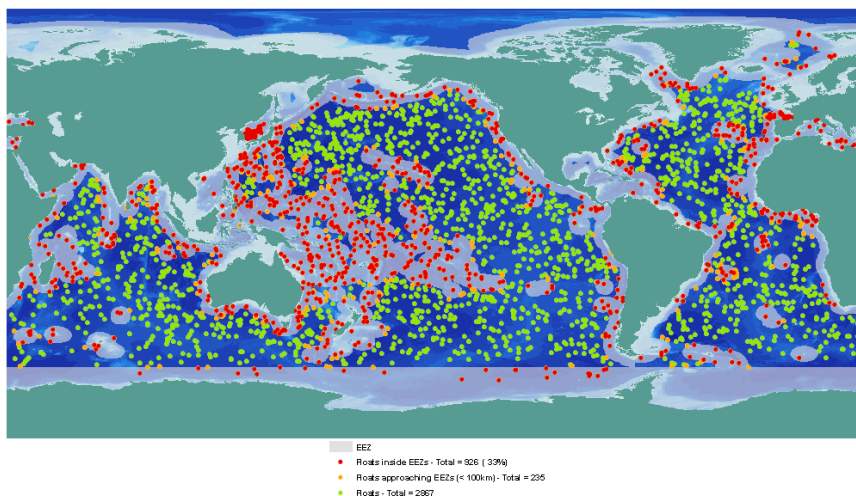
The true challenge for assembling a global deployment planning is human and not technical: the TC has to keep in contact with all float operators (75 different Argo programmes and contacts changing all the time), to explain them how it works and assist them in this process. The notification procedure now includes a draft mode to quickly edit records. Text files can be loaded directly on-line for large deployments. Operators can update their plans as required until all details (e.g. WMO ids) are ready for the formal notification.

A set of new products has been developed:

- A new [web interface](#)
- A new data layers for planning ([interactive Map](#))
- A new monthly map for planning (see below)
- A new script developed to produce daily data layers for floats entering or approaching EEZs (see below)
- Daily (text/GIS files) exports of [plans](#) and [EEZs monitoring](#)



The floats displayed in the Antarctic are a “reserve” for which a deployment opportunity is yet to be indentified



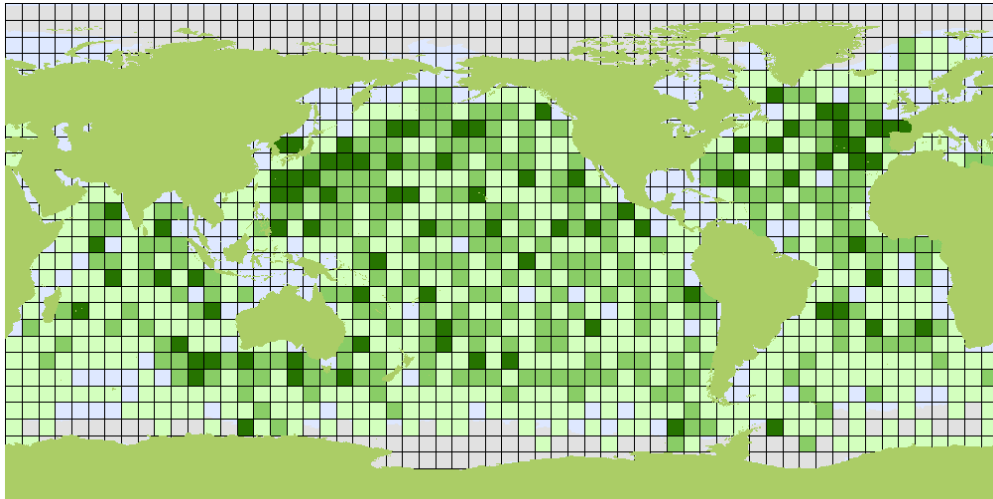
*The map shows that **30%** of the Argo array is operating within IOC Member States EEZs.*

- **Network Coverage**

3 new data layers are available. They have been integrated in the web GIS and are used for monthly map production. (See below):

- Network density
- Network Age
- Network planned density

The cooperation of the TC DBCP in developing these new GIS data layers is gratefully acknowledged.



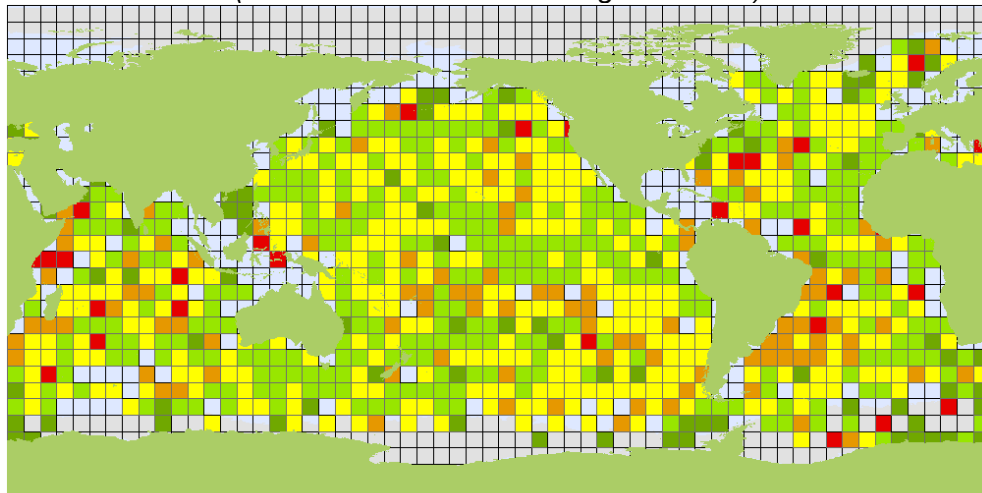
3006 Argo Floats

0 <75% 75-150% >150%

October 2007

jcommops

A simple view of the Argo network density which help in identifying gaps on a 6°x6° grid (Normalized on the 3°x3° Argo standard)



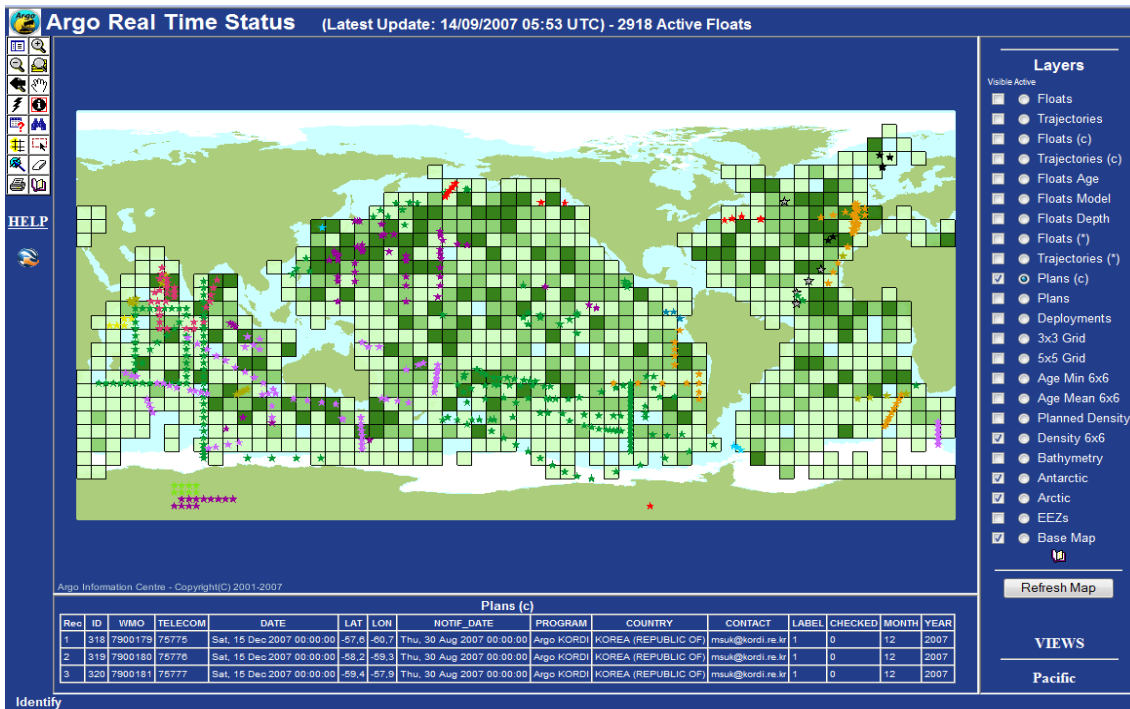
3006 Argo Floats

0 <1 year 1-2 years 2-3 years 3-4 years >4 years

October 2007

jcommops

A simple view of the Argo network Age (Mean for 6°x6°) to anticipate future gaps



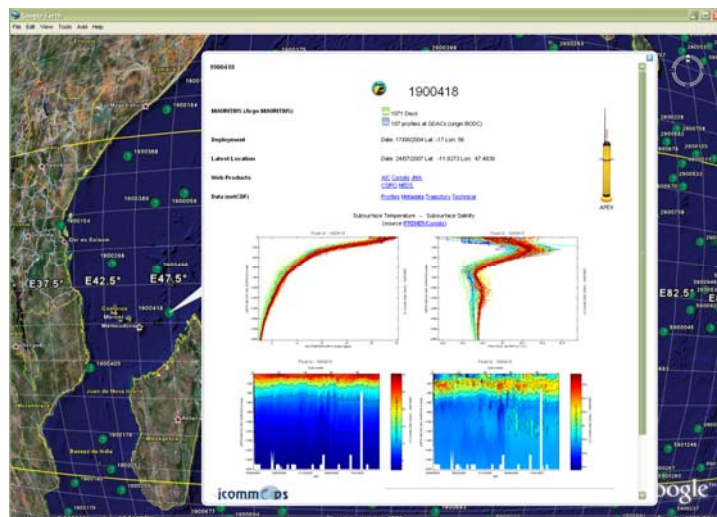
The Interactive Map permits overlays of all layers and optimize the deployment strategies of platform operators.

<http://w4.icommops.org/website/Argo>

- **Google Earth**

The Argo KML files were substantially improved (see below) and now include data charts (produced by IFREMER), key metadata, links to all official data files (at GDACs), and links to national/regional websites proposing products for individual floats.

KML files are now served in a zipped format (KMZ) which is lighter to download but can still be read directly by GE.



This application is extremely useful for the tracking of beached floats and communication (e.g. live demonstration)

<http://w3.icommops.org/FTPRoot/Argo/Status/status.kmz>
<http://w3.icommops.org/FTPRoot/Argo/Status/inactive.kmz>

Misc. Website Updates:

- FAQs section reviewed (e. g. float retrieval issues)
- Documents section reviewed. Many documents, press releases, e-papers loaded.
- Pictures/Photos gallery enriched on the [FTP](#) site
- Argo Data Users survey results are available [here](#) (100 Argonauts replied).
- New mailing lists created (for trajectory files issues and Argo Regional Centres)
- Key Argo links and shortcuts added on the [Argo toolbar](#)
- Delayed-Mode operators contacts recorded
- New "Float of the month" section. Submit your float to Megan Scanderbeg at the Argo Project Office (msscanderbeg@ucsd.edu)
- Argo portal improved: <http://www.argo.net>

5. Data Management

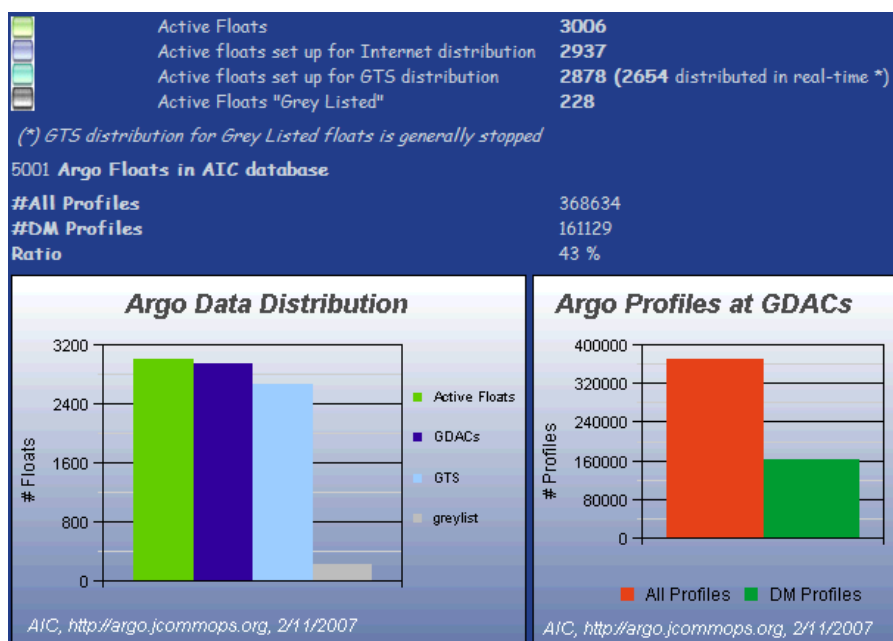
Float data distribution is verified at the AIC on GTS (daily + monthly stats from Meteo-France) and at Argo GDACs (daily stats from Ifremer).

As a consequence of this daily tracking (table and statistics are available on-line) and the monthly reports, the global Argo data distribution is almost perfect (see stats below): 98.8% of the Argo fleet distribute data as appropriate at a given time. The data managers are invited to keep an eye on the remaining 1.2% to not "waste" real time profiles used by operational centres.

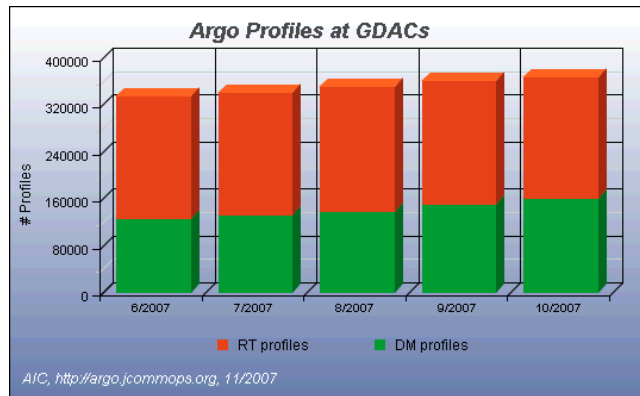
New developments:

- Daily update from Argo GDACs improved for delayed-mode files tracking.
- New dynamic charts for real-time and delayed mode Argo data distribution.
- Summary put in AIC Monthly Report (see annex)

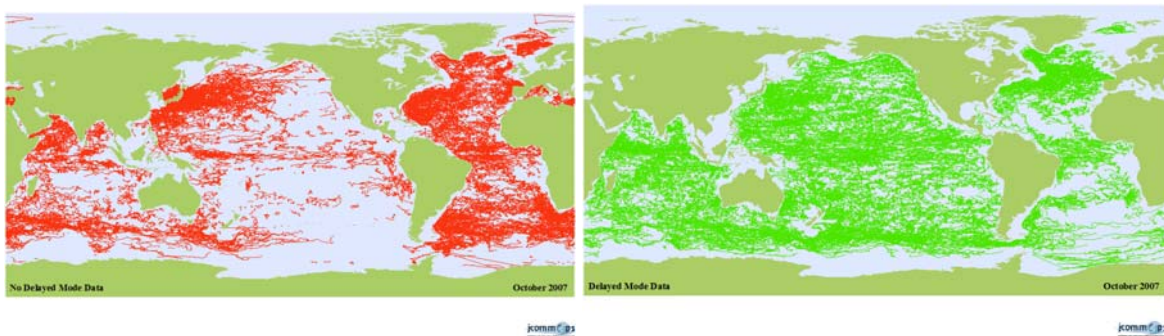
The following chart (website screenshot) summarizes the status of Argo data distribution.



A summary of the Argo data distribution status



This chart monitors the growth of delayed mode profiles distribution. It is available for all Argo and all Argo components (countries and programmes).



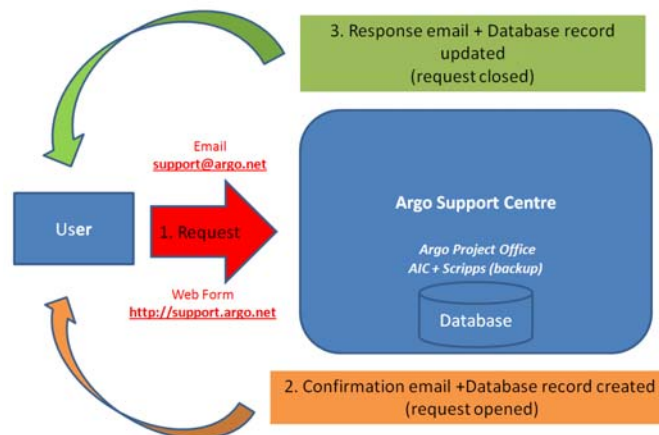
New monthly maps permit to check the geographical status of the DM data distribution. This information is available on the interactive Map too.

Argo Support Centre:

The Argo user community is growing and increasingly diverse. The user support activities need to be strengthened and organized properly within the AIC. Feedback from all project participants, from data users to data providers needs to be managed with a simple and efficient mechanism.

Part I: General support to users

In order to process the queries in a structured and timely manner, a centralized procedure has been set up. The Argo Project Office (Argo TC + M. Scanderbeg / Scripps) provides an operational user desk via <http://support.argo.net> and support@argo.net (See below).



This procedure will permit archival of requests and generation of reports to the AST and the ADMT.

A few requests were already processed through this system (regarding general data access in ASCII, and /gts directory content).

The next Argo Newsletter will formally invite users to send their requests to support@argo.net .

Part II: Feedback from data users to data producers

This part will be developed in the coming months, after discussion at the upcoming ADMT (meeting on November 2007). If possible it will be integrated in the existing mechanism developed at JCOMMOPS for DBCP/SOT QC relay mechanism.

ADMT#7 Meeting Action List (for the AIC):

- 1) AIC to integrate MEDS statistics on GTS problems as well as Coriolis metadata check in the bi-monthly report – COMPLETED
- 2) AIC to implement and document a reliable Argo user desk behind the support@argo.net email to ensure that all request are processed and to provide history of the request to the ADMT and AST partners. STARTED (see above)
- 3) Promote the support@argo.net via the Argonautics newsletter, at GDAC at AIC when the system is in place. COMPLETED at AIC and argo.net
- 4) AIC to monitor the progress on reducing the GTS historical backlog. COMPLETED (see on-line and in monthly reports)
- 5) AIC to implement periodic statistics to measure the progress on Argo data management activities. COMPLETED (see on-line and monthly report)
- 6) More visibility to be provided to ARC from Argo WWW sites. COMPLETED (see AIC, argo.net, Argo toolbar)
- 7) AIC to monitor progress of trajectory files at GDACs. WAITING spec from “Trajectory group”
- 8) argo-dm-traj@jcommops.org mailing list to be set up by AIC. COMPLETED
- 9) AIC to identify the floats without delayed-mode operator. COMPLETED. (see on-line and monthly report)

6. International Issues

New participants

The AIC encourages and coordinates multilateral collaborations through “float donations” in order to build capacity for new participating countries, identify new deployment opportunities, and finally help to implement and maintain a global array.

The donation contract is still being reviewed by UNESCO lawyers.

This year the following programmes have been finalized thanks to the University of Washington Argo programme and with the WMO support:

Kenya: 5 floats transferred and to be deployed soon by the Kenyan Navy

Ecuador: 3 floats being transferred and to be deployed soon by the Ecuador Navy

Additionally, contacts have been established with the following countries:

- **Gabon:** Argo TC met Foreign Affairs minister. To follow up with a donor programme. Possibility to fund floats within a few years.
- **Morocco:** letter sent to different departments to organize a workshop to promote Argo, identify the partners ready to start an Argo programme and transfer floats from France and USA. Waiting official reply.
- **Ivory Coast:** to organize a donor programme. Ivory Coast established an Argo Centre and is waiting for floats. Formal request received from the “Centre de Recherches Oceanologiques” Director to participate in a donor programme.
- **Indonesia:** waiting for floats. Depl. opportunities identified in I.O and Banda Sea.
- **Cape Verde, Sri Lanka** helped to retrieve stranded floats: waiting for floats
- **Rep. Dominican:** waiting for floats.
- **Columbia:** letter sent by the AIC to help scientist to get funding for 4 floats from DIMAR/CCCP.
- **West African countries** (Argo Training Sessions).

Preparing the deployment of even a few units by a new country is a time consuming task (email + phone). It takes generally between one and two years.

The demand is increasing and difficult to satisfy in a timely manner.

The floats “in reserve” (see planning map) could be used as part of the donor programmes.

Retrieval of beached floats

This is an increasingly time consuming task. The Argo label affixed to most of floats has proven its worth. More and more “Samaritans” contact the AIC when they find a float.

The list of beached floats and the status of retrieval procedure is tracked on-line and in monthly report. About 50 floats are awaiting retrieval. About 30 units were successfully retrieved, secured and shipped back to their owner.

In many cases it is necessary to send a technician prior to the shipping, to prepare the instrument (in particular when instruments are equipped with Lithium batteries).

This provides an excellent opportunity to establish contacts in new regions and communicate on Argo to coastal communities.

Exclusive Economic Zones, Law of the Sea

The work of the IOC/ABE-LOS group is progressing.

The Argo TC participates in the work and provides a concrete example with the implementation of the [IOC Resolution XX-6](#).

Argo is seen as a good example of an ocean observation programme, in particular regarding its transparency, and how it encourages international cooperation.

The AIC (and further JCOMMOPS) is being recognized as the ideal tool to inform Member States about deployment planning, platforms metadata and data access.

The notification procedure set up by the AIC could be recognized and formalized through a new Resolution.

As recalled in the documentation all Argo programmes should take care to:

- Designate a person (representing the Institution) to enter the deployment plans in the AIC website
- Regularly update the information
- Notify the plans when they are finalized
- Make sure that the information entered is correct

In addition to the web/email based notification procedure, letters (prepared by the AIC and sent by the IOC Executive Secretary) on the status of floats within or entering in the EEZs were sent to some IOC Member States. This will establish or re-confirm the formal contact for each Member State and possibly assist in updating the list of Argo National Focal Points.

7. Planning

Planning for 2007-2008 AIC activities can be summarized as follow:

- Continue to encourage float operators to notify of deployment plans
- Continue to address any issues with the new website
- Improve JCOMMOPS Information System operational status
- Improve the AIC Monthly Report
- Improve the Support Centre section I: “user desk”
- Develop the Support Centre section II: “feedback from data users to data producers”
- Continue to issue reports on EEZ status to IOC Member States
- Improve the Argo Portal www.argo.net
- Update Argo communication material: presentation, poster.
- Continue to assist in the float retrieval activities
- Continue to foster participation by new countries through donor programmes
- Finalize the Web Map Services (WMS) - prepare a guide and help page for users
- Create new daily layers for GE and Interactive Map
- Improve (modestly) Argo media coverage via direct contacts or educational initiatives
- Assist in the promotion of the 3000th float.

Annex: Latest AIC Monthly Reports

[July 2007](#), [August 2007](#), [September](#), [October](#)