Argo Information Centre
Report

Argo TC, M. Belbeoch
AST #8, Paris / IOC of UNESCO
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Update of report included in annex of ADMT#7.

1. Background

The international Argo Information Centre (AIC) is participating in the activities of the Argo Project Office (APO) and of the JCOMM in situ Observing Platform Support centre (JCOMMOPS).
The AIC is funded on a yearly basis via voluntary contributions of United States, Canada, France, Australia and United Kingdom.

Discussions on the development of JCOMMOPS to new ocean observations components, on its possible relocation and broadening of its staff have been initiated. AST members and AIC current or potential contributors are invited to fully take part to these discussions.

2. TC Activities

E. Charpentier moved to WMO in February 2006 and was replaced by H.Viola (from Australia, BOM) in July 2006.
Hence, From February 2006 to July 2006, the main JCOMMOPS services have been maintained by the Argo TC.
During this transitional period the additional work load on the Argo TC has been minimal.
Expertise on operating the JCOMMOPS information system is gradually transferred to the new DBCP/SOT TC. Specific training on DBCP/SOT coordination was provided by E. Charpentier.

By 2007 the JCOMMOPS synergy should return to a normal mode.

It is to be noted that the synergy with the Argo Director has been slow down during the second half of 2006.

To free time for coordination, communication, analyse and development of value added products the TC would need help in the routine technical and secretariat support.
While the Information System is almost finalized the work load required to maintain the system (at all levels) is still substantial and JCOMMOPS doesn't take benefits from a real secretariat support.

In 2006, the management of the float database has been gradually rationalized through the use of weekly procedures, reports, and web administration applications.
The Argo TC has today appropriate tools to check the status of an active fleet of 2800 units with about 80 new deployments per month.
Time spent on this task is reasonable; on average, 1 day per week and another day each month are necessary to keep the float database up to date, taking into account available tools.
A particular effort has been made to finalize the new website, and the products provided.
New tools have been designed to facilitate the deployment planning and coordination.

The following are given practical examples of regular tasks performed by the TC (non exhaustive).

Routine Tasks:

Daily

- Check the information system is working and fix any problems occurring
- Answer (email, phone) support requests concerning any aspect of the Argo project
- Check "meta database" content and integrity
- Check log files and daily batches worked without error
- Recall to notify new float deployments if needed
- Notify deployments if needed (for new programmes)
- Team work with TC DBCP
- Supervise students being trained at JCOMMOPS (if any)

Weekly

- Maintain up to date Argo Status (add new floats, check float parameters, check potential revivals, inactive floats, beached floats, etc) => write report
- Check log files and weekly batches worked without error
- Track floats with no data distribution (GTS & GDACs) => write report
- Take steps to set up data distribution for DAC-less programmes.
- Add pertinent news on the website (Argo websites updates, deployment opportunity, float retrieval stories , new contributions, etc)

Monthly

- Prepare Argo status maps
- Clean float trajectories and archives
- Check log files and monthly batches worked fine
- Analyse monthly reports, graphs and maps produced, to look for discrepancies. Alert community and/or suggest solutions if needed
- Administrative tasks (regarding IOC, JCOMMOPS)

Yearly

- Coordinate donor programmes (including shipping, technical assistance)
- Coordinate retrieval procedures
- Think of new ideas and recommendations that could be made to the AST/ADMT to improve overall coordination and effectiveness
- Review website content.
- Reports to AST, ADMT and DBCP on AIC activities
- Beached/Retrieved floats status
- Argo implementation
- Think of and prepare new training subject(s) for potential students at JCOMMOPS
- JCOMMOPS annual budget (IOC, WMO, CLS). Plan future expenditures with DBCP TC.

Biennial

- Review websites to ensure that they are well targeted and provide the best demonstration of the value of the Argo project
- Think of new monitoring and metadata tools

Ad hoc tasks

- Provide material (statistics, maps, charts, presentations) on demand
- Update database/website (Argo programmes, contacts, meetings, etc)
- Develop/finalize web applications
- Develop/finalize scripts (to check database or produce status files)
- Add new metadata to the system (sensors, deployment method, beached floats, deployment plans)
- Maintain/Install hardware/software (Administration of 3 servers)
- Investigate new floats/programmes to include them in Argo
- Represent the "Argo customer", within CLS, if problems occur (to speed up solutions)
- Assist CLS to solve GTS issues

- Prepare presentations on Argo , JCOMMOPS, etc
- Write general abstracts on Argo (e.g. press releases)
- Write letters in collaboration with IOC/WMO to build donor programmes (customs, foreign affairs) and invite new countries to join the Argo project
- Mailing Lists maintenance (13 Argo lists + 2 JCOMM and 1 GEO list)
- Prepare missions/visits

Remark:

- TC uses more and more the phone to solve issues
- 500 Argo emails sent in 2001
- 500 sent in 2002
- 1000 in 2003
- 1350 in 2004
- 1250 in 2005
- **1800 in 2006**

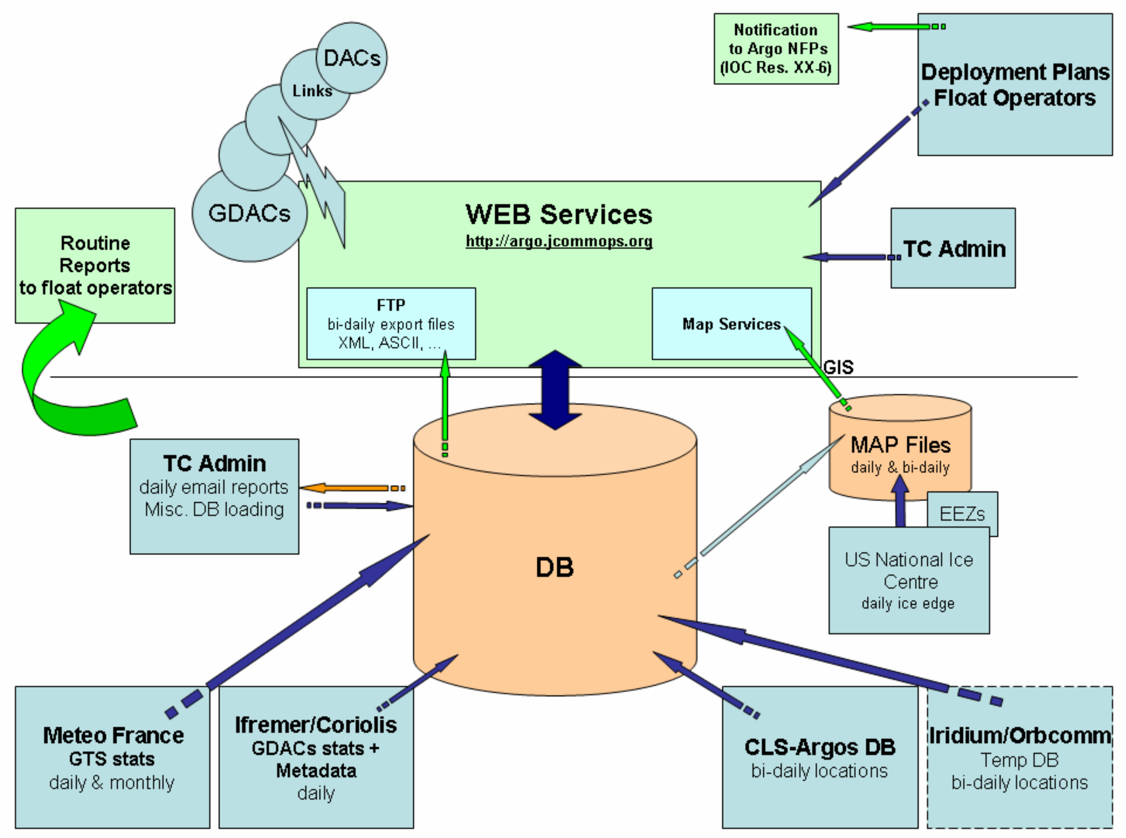
2006 TC Missions:

AST#7 Hyderabad
Argo France meeting, Brest
IOC/ABE-LOS #6 meeting, Malaga
IOC Executive Council, Paris
Visit of WMO, Geneva
Visit Webb Research, Woods Hole
DBCP meeting, San Diego
Visit Scripps, Dan Diego
ADMT #7, Tianjin
Argo Workshop, Ghana
Visit Ifremer / IRD / Meteo France, Brest
EURO Argo, NAARC #2 meetings, Brest

3. AIC Information System

a. Background

The AIC website is the tip of the AIC Information System iceberg and is used routinely by the TC to achieve various international coordination tasks which require accurate and up to date information management. The system routinely assimilates information from heterogeneous sources, then checked and re-distributed in various ways (see information flow diagram below).



AIC Information flow diagram

N.B: assimilation of Iridium locations is experimental for now (SAI FTP site or GTS data). In the future the AIC will need a direct access to float locations from a centralized source, as it is today for Argos, to guarantee an operational and independent float tracking.

b. Audience

Since April 2006 a survey has been conducted to obtain feedback from the Argo data user community. The full results are published in the annex.

To the question *"How well are you satisfied of the AIC services?"* 84% of respondents replied from Good to Excellent, 14% average and 1 % bad.

To the question *"What improvements would you recommend?"* some interesting proposals were:

- improve website speed and stability (ongoing)
- provide hard copies of content to developing countries (ongoing on Argo CDROM)
- add a real-time density coverage layer to the interactive map (being finalized)
- Add a web form to ask for WMO Ids (being discussed with WMO)
- Access to download publications (legal issues)
- More FAQs on trivial questions
- Better bibliography
- More visibility to oxygen pilot project
- Forum to answer and discuss questions/doubts about Argo data use (=> argo@jcommops.org)

These proposals will be considered for future plans of the AIC and
This survey was initiated before the release of the new site; it is likely to have a better audience and feedback in the future. In addition the primary target of this survey was not AIC and JCOMMOPS users but Argo data users.

Same question has been asked for the Project Office website (and some proposals are included above).
It seems that users do not clearly anticipate the content of each site and finally don't really make a difference.
A better integration and organization of websites should reply to most of requests.
When a user is looking for a specific information, if doesn't exist on one site it exists on the other.
A better design of the argo.net portal may be the solution.

c. New AIC website

The year 2006 marks an important milestone in the AIC development as a new website has been released following 2 years of effort to deploy the system on new hardware and software architectures.
The new website was officially released late September. As is expected with any major website upgrade, it will need an additional effort of optimization before reaching a truly stable state.

The dynamic web application previously deployed on a low specification WinNT server has been migrated to a more powerful UNIX/MacOSX server and upgraded with many new components.
The JCOMMOPS graphical design (produced by the AIC previously) has finally been applied to the new site.
The website includes, in particular, a new deployment planning and notification interface (gathering more metadata and deployment plans), an improved float search engine, an improved float details page linked to many national DAC products, more statistics on project development, new maps, new statistics on national/regional contributions, new statistics on floats lifetime, and a photos/pictures gallery.

d. New Products

http://argo.jcommops.org

Most of the features in the previous website have been improved and many details have been fixed.
Some of the new features of the website are:

<u>Dynamic Web</u> (See Annex for key links and sample charts)

The rotating Argo globe (produced by IOS/Canada) has been removed from the home page for performance reasons (too heavy animated gif). A new picture or map will replace it soon.

<u>1) Argo OPERATIONS</u>

Home

- New Homepage (visibility to all participating countries and access to national statistics)

Implementation

- New static page on “What is Argo”
- New page on participating countries including a chronology, a yearly deployment table and a bar chart on active floats and their data distribution.
- New deployment notification interface (draft mode, text file loader, more metadata gathered, list of deployment plans per basin, text sent to Argo focal points reviewed, bi-daily export in text file)
- User guide for deployment planning issued
- New section on retrieval of beached floats (list of beached floats, retrieved floats, safety guide)

Monitoring

- New statistics on project status
- New statistics on national, “sub-national” contributions (network growth, age distribution, float decay, float models, yearly deployments, link to interactive map)
- New float search engine

Map Room

- new page on Google Earth files
- new maps

Instrumentation

- Float decay chart available for all floats and each float model

Data

- Statistics on data flow (Internet, GTS) tuned
- Support section – stand by - to be discussed with AST.

2) COMMON (JCOMMOPS) SECTIONS

Platforms

- New Float search engine: many more criteria to build the query regarding platform status, deployment, equipments, latest location, data distribution, cycle, lifetime.
- Many more fields can be displayed (or hidden) on the query result page
- Access to a statistics page for the float group defined (age distribution, drifting/profiling pressure, decay charts)
- Platform Inspect page completed (more metadata, links to GDACs, DACs, ARCs products, link to interactive map, Argo netCDF metadata explorer developed)

Documents

- Links to documents checked and updated, Argo papers and press releases added

Meetings

- Pages reviewed to allow documents management and access to external web site

Gallery

- Photos gallery added and gradually enriched. Many high resolution photos gathered and stored for now on the FTP site. *To review sources and credits*.

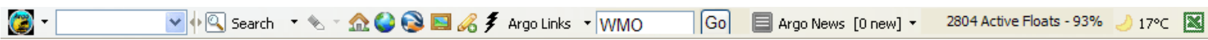
Help

- Site Map added

Maps

- Google earth files are now produced bi-daily (active & inactive floats, trajectories, beached floats)
- Monthly map generation has been automated (near fully) and maps are produced in PNG for the web pages and in PDF for high resolution requirements.
- Web Map Services (WMS) are being finalized (GIS interoperability).See key links to generate maps with data layers provided by JCOMMOPS.
- New data layer (Argo Deployment Plans)
- Global JCOMMOPS interactive map set up: http://w4.jcommops.org/website/JCOMM
- New coverage layers (density, age) developed (with TC DBCP). *To finalize and set up routine update.*
- The AIC produces on-demand Argo maps as well.
- AIC map designed is applied to all JCOMMOPS maps

The AIC Toolbar



This gadget is unfortunately restricted to Internet Explorer (5.0+) and Firefox (1.01+) users.
Amongst other things it permits the user to (see picture above):

- search from anywhere on the web with Google search engine
- search the AIC database (platforms, contacts, news, documents, glossary)
- gain instant access to key links (Argo Project Office, Interactive Map, Planning, Latest status map, Google earth).
- gain access to brief Argo news (e.g.: notification of monthly maps release)
- gain instant access to an Argo float by its WMO Id
- gain instant access to GDACs and national websites *(to add ARCs)*

This toolbar will be gradually enriched with Argonauts' proposals.
It has been installed by 35 Argonauts.

e. Operations

The latest web configuration is designed to automatically re-launch a service that has failed. However this does not cover all cases of failures, so another procedure is required to approach the 24/7 services, though for AIC, 24/7 support is not as important as it is for organizations such as data distribution centres.
In this regard, the AIC benefits from the CLS logistical support which monitors many operations.
Hence, the main services provided on-line, particularly the website and mapping system, are now monitored 24/7 by CLS operators.
If services are down, then operators see a warning message on their control screens and can apply the procedure to launch them again.
This new procedure will be tested and refined in the following months and AIC services should be fully operational by 2007.
In 2007 one of the 3 servers will be replaced (6 years old). This will permit to set up the final and ideal architecture for the I.S.

The goal is to design a near operational system for which the maintenance could be subcontracted and hence, free working time for TC to focus on coordination and analyse.

4. Deployment Planning

Argo is entering a new phase: sustain a complete network.
A rational planning of deployments will be fundamental to maintain an optimal coverage and allow an optimal use of ship time.

The logistic is still a challenge for Argo. Some areas (particularly in southern ocean) have never been seeded because of the lack of deployment opportunities (see map of all Argo deployment below).

Argo can find new deployment opportunities through:

- The extension of regional support (as done through donor programmes and ARCs initiatives).
- The cooperation with other panels maintaining observation networks (e.g. share plans with DBCP).
- The accurate monitoring of the planned cruises. This requires a dedicated technical coordination process.

To that end Argo TC replied to POGO request to establish a research cruise database within JCOMMOPS infrastructure and hire a new TC (half time). Unfortunately the proposal was not accepted.

But first of all, Argo needs to organize efficiently its own planning.

Hence, the AIC took steps to provide appropriate tools to facilitate the planning, including:

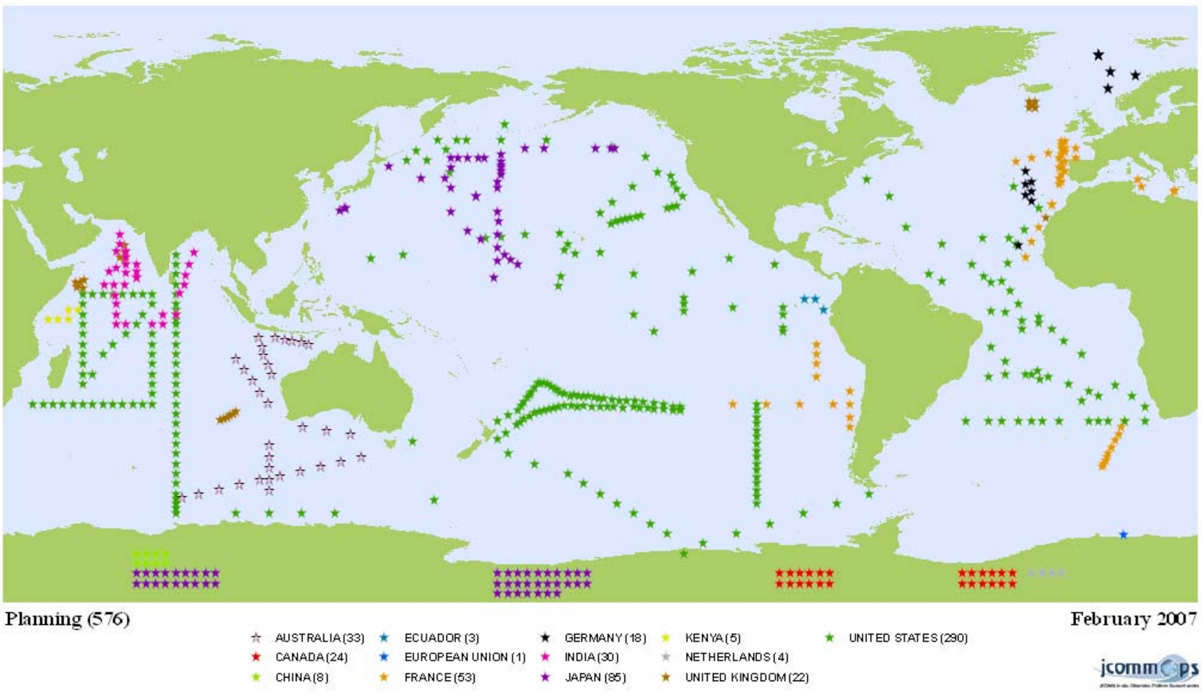
- Update of the global plans (web pages, text files, maps and GIS files)
- Update of the current and planned coverage (see annex)
- Update of the current and planned network age (see annex)
- Monitoring of float survival rate (see annex)

However last information is missing: the spatial dispersion of floats.
Such product could be realized in cooperation with an oceanographic centre before integration in the AIC system.

The target is to provide a single interface (as the Argo interactive map) permitting to cross all required data layers (Argo plans, DBCP plans, network age/density/dispersion, XBT lines, research cruises, past deployments, etc …)
We are not far away of such goal.

The AIC notification system has been upgraded to allow more flexibility to load draft plans and update them easily as part of the regional coordination process.
Float operators (of the 76 Argo programmes) have been gradually trained to use this new system in the last months and within a year all should be familiarized with it.
A document has been issued to summarize this process, guide the users through the web interface and answer frequently asked questions.
This user guide will be regularly updated.

For the first time we have a view of the global Argo planning for 2007, including around 600 deployment plans. It is hoped that regional coordinators will be able to optimize the deployment strategies in their basin thanks to these tools.



5. Data Management

The AIC participates in the Argo Data Management Team activities, encouraging standardization, regional collaboration, promoting data flow, and providing specific tools to facilitate data management set up and to monitor the Argo Data System.

Assistance for data distribution
Some national Argo programmes have not yet developed such capabilities, or have no dedicated funding for data management (focusing e.g. on implementation aspects).
In that case, the AIC coordinates the data management set up with voluntary centres ready to take upon the float processing. In practice, such assistance is offered by CLS for the GTS distribution and Coriolis for the GDACs distribution.

National Data Centres
National contact points, report on-line on the different steps achieved concerning real-time or delayed–mode data management. Some new products could be developed to monitor the progresses made on delayed-mode and trajectory files.

National Argo websites proposing products on individual floats are now linked with the AIC website (see Annex).

Daily monitoring of data distribution
Data distribution on Internet (GDACS) and on the GTS is still monitored on a daily basis and is compared to the floats officially notified at the AIC.
Some scripts are running daily to retrieve information from Meteo-France (GTS) and Coriolis (GDAC) and then merge it with the AIC float data.
The status of data distribution, available on the website, is routinely sent to the ADMT through, including report from MEDS (on GTS duplicates and anomalies), and Coriolis (on metadata files anomalies).

Float operators in charge of data management set up are encouraged to use such lists to detect potential omissions and check if data are effectively published through the appropriate channels.
A new table has been added on-line regarding the “DAC-less” floats (directory “/gts” at GDACs).

Metadata
The AIC database deals now with more metadata and particularly with the float cycle information impacting lifetime statistics.
A netCDF Argo metadata explorer has been plugged into the “Platform Detail” page and metadata file content can be loaded in the database to augment the information provided by float operators during the deployments notification procedure.

It is needed to cross check this information in details before proposing new lifetime charts based on the kilometres of profile.

Support
A proposal to build a complete Support Centre at the AIC was discussed during the last ADMT meeting and to follow up on AST7 action item 15.
Argo TC visited Coriolis this year to see how was set up the user support at Ifremer/Coriolis: codac@ifremer.fr

3 items can be identified:

- **i) direct support to users**

The idea would be to archive and reply as appropriate to the queries on Argo and particularly on Argo data use.
It is to be noted that this is a task manually done by the TC on a daily basis (or by data centres or individuals). So this initiative will permit to integrate, automate, rationalize and archive existing mechanisms.

For now the generic email address support@argo.net has been set up and points to the TC mailbox. It would be needed to add a second contact on this mailing list to take the relay when Argo TC is unavailable.

When a query is received at support@argo.net it could be archived in the database (cut and paste).
TC (or alternate) takes step to reply, asking assistance from experts if needed, archive the response.
Status can be monitored at any time by AST/ADMT.
Record can be tagged as a FAQ for public access.

- **ii) feedback from data users**

Today there is no clear mechanism that can relay the feedback from data users to the platform operators, data managers and appropriate Argo mailing lists (see problem on SOLO FSI). The two channels of data distribution (GTS and GDACs) have to be considered.

A web based and/or mailing system (as it exists at JCOMMOPS for buoy data) could help.

- **iii) Communication to users**

Are the existing mailing lists appropriate to communicate with all data users?
Do we need to create a new mailing list?

ADMT7 Actions status
- AIC to integrate MEDS statistics on GTS problems as well as Coriolis metadata check in the bi-monthly report. **DONE**
- 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. **See proposal above.**
- AIC to monitor the progress on reducing the historical GTS backlog. **DONE**
- AIC to implement periodic statistics to measure the progress on ARGO data management activities. **TO DEFINE**
- AIC to monitor the progress Data flow for delayed mode processing. **TO DEFINE**
- AIC to identify the float without DM operators. **TO DO**
- Argo-traj-dm mailing list to be set up by AIC. **DONE** **argo-dm-traj@jcommops.org**

6. International Issues

New participants

The AIC encourages and coordinates multilateral collaborations through “float donations” in order to build capacity for new participating countries.

The donation contract is still being reviewed by UNESCO lawyers.

This year 3 more donor programmes have been initiated:

- Dominican Republic (2 floats)
- Ecuador (2 floats)
- Kenya (5 floats)

The AIC (with IOC & WMO assistance) is investigating the possibility of increasing the number of countries supporting Argo in the Caribbean region.
A meeting is planned in Morocco to promote Argo to key contacts, identify the potential partners and start up cooperation with USA and possibly France.
Philippines and Ivory Coast have expressed there strong will to be associated in donor programmes.

Retrieval of beached floats

The AIC is likely to be the first contact point in identifying grounded floats and assist, as appropriate, in coordinating communications between all parties in the retrieval procedure.
A new Argo label has been produced by Scripps. It is lighter (so that it will not affect float ballasting if the sticker is lost during its mission) and distributed to float manufacturers.

	WMO	MODEL	PROGRAM	AGE	REGION	CONTACT	RETRIEVAL
	5900225	APEX	Argo CHINA	1414	Philippines	none	none
	2900345	APEX	Argo INDIA	930	Maldives	yes	none
	2900263	APEX	Argo INDIA	1260	Maldives	yes	none
	5900313	APEX	Argo JAMSTEC	1360	Philippines	none	none
	5900494	APEX	Argo JAMSTEC	1031	Philippines	none	none
	5900308	APEX	Argo JAMSTEC	1370	Philippines	none	none
	5900191	APEX	Argo METRI/KMA	1520	Philippines	none	none
	2900311	APEX	Argo METRI/KMA	1130	Philippines	none	none
	2900306	APEX	Argo METRI/KMA	1130	Indonesia	none	none
	1900183	APEX	Argo UW	1165	Maldives	yes	none
	3900100	APEX	Argo UW	1397	Peru	none	none
	1900169	APEX	Argo UW	1250	Sri Lanka	yes	On-going
	1900154	APEX	Argo UW	1354	Tanzania	none	none
	1900571	SOLO	Argo WHOI	401	Cape Verde	yes	Float lost
	1900230	APEX	Argo eq. IFM	1200	Somalia	yes	On-going
	1900027	APEX	Argo eq. NAVO.	1470	Turkey	none	none
	1900593	Provor	EGYPT	294	Egypt	none	none
	5900650	APEX	Argo JAMSTEC	870	Maui - USA	secured	On-going
	5900607	SOLO	Argo SIO	946	Brisbane-Australia	secured	On-going
	6900135	Provor	CONGAS	683	France	Retrieved	
	5900626	SOLO	Argo SIO	698	Lifou - NC	yes	none
	6900120	APEX	Argo eq. UW-UA	230	Crete	none	none
RAFOS (not Argo)			WHOI		Ireland	secured	…

A dedicated section of the new website provides the list of beached/grounded floats, a safety guide and the list of retrieved floats. Progresses are tracked through distribution of weekly reports (see table above).

Remarks:
- TC doesn't proceed to retrieval without clear instructions from float owner.
- Retrieval procedure is usually a long and time consuming process but is a good opportunity to strengthen the regional support to the Argo project.
- Publishing a new in a local newspaper can help to retrieve the lost float and to promote Argo benefits to coastal people.
- Many float are beached in Philippines and the solution may be to send someone there (another reason to develop cooperation with Philippines – see above).

7. Communication

In 2006 TC participated in the following events and initiatives that contribute to the promotion of the project:

- Argo Article in Mercator Newsletter
- Argo Article in Thalassa (French magazine)
- Argo float shown on French national TV news
- Ongoing: educational initiative being prepared with CNES (Argonautica)

French national TV is planning to make a video of a float deployment with Ifremer, around the 3000th float event.

Remark:
A request as been made by NASA/USA to make a movie of a float deployment as part of a video documentary about the Estimating the Circulation and Climate of the Ocean (ECCO) project, which involves the Scripps Institution of Oceanography, the Jet Propulsion Laboratory, MIT, and other institutions.

8. Planning

Planning for 2006-2007 can be summarized as follow:

- Continue to address any issue with the new website
  Highlight the Argo project's good health on the website (participate in the value demonstration of Argo)

- Rationalize the update of float database (almost achieved)

- Develop tools to assist deployment planning (produce map files of deployment plans and future array status (+ 1 year, etc) (almost achieved)

- Develop the Support Centre section

- Produce a real-time density coverage layer for interactive map (almost achieved)

- Finalize the Web Map Services - prepare a guide.

- Improve Argo Portal www.argo.net (to be discussed within the Argo Project Office)

- Rationalize the reporting (on progress)
  Weekly reports to AST, ADMT (on Argo status)
  Monthly status report to all Argonauts (to do)
  Yearly report on Argo implementation (to do)

- Finalize the float retrieval procedure

- Finalize the donor programme and foster participation by new countries

- Establish new contacts, e.g. POGO research cruise database to provide better information on deployment opportunities (JCOMMOPS issue)

- Improve (modestly) Argo media coverage via direct contacts or educational initiatives

- Assist in the promotion of the 3000th float.

Annex 1: Argo Users Survey

An on-line survey has been set up by the AIC in May 2006 to gather, during one year, data users and other Argonauts feedback on the quality of the services provided through the global Argo infrastructure, including data distribution centers, Project Office and AIC.

As of March 2007, **81** persons replied to the survey.

Survey address: http://www.surveymonkey.com/s.asp?u=460472024285

1. You are:

	Response Percent	Response Total
An Argo Project Manager/ Principal Investigator	9.9%	8
An Oceanographer/Marine Scientist/Researcher	**54.3%**	**44**
A Marine Meteorologist	1.2%	1
A Modeller	9.9%	8
A Float Technical Expert	3.7%	3
An Argo data user	32.1%	26
A student	14.8%	12
General Public	11.1%	9
Other (please specify)	8.6%	7
	Total Respondents	**81**
	(skipped this question)	1

Others

You are:	
1.	a high school math teacher
2.	Educator
3.	Journalist
4.	College faculty (physics)
5.	Manifactor of senssors
6.	Argo national management
7.	JCOMM Secretariat

2. Where are you located?	Response Percent	Response Total
Africa	3.7%	3
Americas (Mexico & North)	**28.4%**	**23**
Americas (South of Mexico)	7.4%	6
Antarctica	0%	0
Asia	24.7%	20
Europe	22.2%	18
Oceania	7.4%	6
Other (please specify)	6.2%	5
	Total Respondents	**81**
	(skipped this question)	1

3. You work in a:	Response Percent	Response Total
Government Research Laboratory	**37.5%**	**30**
Operational Centre	8.8%	7
Data Centre	6.2%	5
University	30%	24
International/Intergovernmental Organization	2.5%	2
Commercial Company	7.5%	6
Other (please specify)	15%	12
	Total Respondents	**80**
	(skipped this question)	2

Other:

	You work in a:
1.	high school
2.	Realtor
3.	electric generating utility
4.	EPO
5.	Media
6.	Defence
7.	homemaker
8.	Government Headquarters
9.	Government Ministry of Science and Technology
10.	empleado publico
11.	institute
12.	Government national HQ

4. What is your main source of information on Argo?

	Response Percent	Response Total
Argo Information Centre	**28.4%**	**23**
Argo Project Office	19.8%	16
Data Centres web sites	23.5%	19
National Argo web sites	13.6%	11
Documents	4.9%	4
Brochure	1.2%	1
Other (please enter URL)	8.6%	7
	Total Respondents	**81**
	(skipped this question)	**1**

What is your main source of information on Argo?

1.	http://www.argo.net/
2.	JUNKSCIENCE.COM
3.	I've been visiting Argo's websites for the first time.
4.	you dont provide none option
5.	www.google.com
6.	We are part of Argo Program
7.	GTSPP

5. What improvement would you recommend for the Argo Project Office website ?
main issues: What is Argo, Why Argo, Steering team, Science, Data Use, Newsletter, Bibliography

Total Respondents	**25**
(skipped this question)	**57**

What improvement would you recommend for the Argo Project Office website ? main issues: What is Argo, Why Argo, Steering team, Science, Data Use, Newsletter, Bibliography	
1.	I just found the site yesterday as part of an attempt to develop a WebQuest for my algebra 2 classes.
2.	Argo website is new to me at this point. Perhaps I'll fill this out again later. I would recommend creating a site that targets students 5th grade up
3.	I would like to see more information about data released a lot quicker. I would like to see Argo have a more public image as it is important to the world at large.
4.	I would like to see more pictures of deployment and people involved. Being a user of freshwater water quality remote sensing equipement, I would like to know more about the specifications and manufacture of the Argo equipement.
5.	coastal oceanography data
6.	Student guide as its all a bit much at first!
7.	comprehension of the globalgeophysical fluid dynamics
8.	nothing
9.	Perhaps you could have a section on "Who is Using Argo Data" outlining some of the value produced by the existance of all this data.
10.	Easily found answers to these questions: How are the floats located? (Argos/GPS when and why are these options chosen) Are the current datasets complete? Do they extend all the way back? What is the difference between the 2 main GDACs, and the various national DACs?
11.	The 'flash' version at www.argo.net is too fancy. From home, via cable internet, it barely loads. The 'information centre' link(to http://argo.jcommops.org/ or http://w3. jcommops.org/cgi-bin/WebObjects/Argo)simply does not exist. One wants to give up. The site http://www.argo.ucsd.edu/ is streamlined, useful, and loads quickly.
12.	Definitly "What is Argo", because there is a global data telemetry and geo-position company of services named "Argos".
13.	Even the quality control data from Argo has problems. Availability of the delayed mode data, particularly, over the Indian Ocean region A group discussion or a forum to answer the questions/doubts about the Argo data/utilisation.
14.	It's decent
15.	more clean Argo Dataset fulltext of the Bibliography
16.	More of developing countries involvement in research and publications through scholarships etc.
17.	if there is an animation of the vertical movement of Argo float mission, it is very fun. (How Argo float works)
18.	none. All is ok
19.	I think the most important will be to uniform the format of ARGO Data,and to deal with the local ARGO data centers, just like the WMO.
20.	I think the document titled "A beginners' guide to accessing Argo data" may be the most useful. It would be nice if this were available in html and if it were also available on the Argo Information Centre web site.
21.	I think it is fine as it is- thanks!
22.	Give more visibility to the oxygen pilot project
23.	Faster loading, also trajectories are poor on the live-map because they aren't edited for positions that cross the left and right boundaries leading to large lines across the maps.
24.	On question 4, I use a number of Argo Web sites for a wide variety of purposes.
25.	Look and feel Consistency with AIC and Argo.net Search engine Better information on how Argo fits in the International community

6. How well are you satisfied of the Argo Information Centre services ?		
	Response Percent	Response Total
Excellent	16.4%	12
Very Good	30.1%	22
Good	**38.4%**	**28**
Average	13.7%	10
Bad	1.4%	1
Very Bad	0%	0
Poor	0%	0
Total Respondents		**73**
(skipped this question)		**9**

7. What improvements would you recommend for the Argo Information Centre web site ? main issues: International Coordination, Operations, Support, Monitoring	
Total Respondents	**22**
(skipped this question)	**60**

What improvements would you recommend for the Argo Information Centre web site ?
main issues: International Coordination, Operations, Support, Monitoring

1. The data request page at France's Coriolis site is much friendlier than the US site
2. I still haven't spent any time in the site. I'll let you know when I have.
3. More general public user friendly Adapted links for younger browsers.
4. I see profiles of individual units are displayed. Are there any aggregate profiles say on a monthly basis displayed on the website?
5. support
6. first time visitor - perhaps recommendations in a few weeks/months, okay?
7. co-operation
8. nil
9. A working link would be a start.
10. Say something about clustering of ARGO floats due to ocean currents, which would change the ocean surface coverage. I should think this is an important issue.
11. Publications access for downloading.
12. Map drawing software is too slow

13.	argo data in prorer formatting and viewing using the latest oceanographic software ODV
14.	The web site is damn slow. The interactive map is not usable (far too slow). But you now have real time sea ice, which is nice. The search utility is not convenient. The one on the godae page is much better.
15.	hard copies of information sent to developing countries who should request them especially the oceanigraphic institutes in Universities
16.	access speed
17.	The funcitons about the International Coordination and Operations will be weighted.
18.	It takes some time for a browser to load the Argo Information Centre web site, whenwever I access. I would like to improve it.
19.	Clearer information on trajectories and problems with trajectories.
20.	sometimes the site used to give a access temporary error, but this may be fully fixed by now.(?) a web-form to order WMO numbers -- this is supposedly already under development, according to Mathieu Belbeoch.(?)
21.	Add real-time argo density coverage layer
22.	Speed

8. What improvement would you recommend for the Argo Brochure?	
Total Respondents	**9**
(skipped this question)	73

What improvement would you recommend for the Argo Brochure?	
1.	Have not yet seen this.
2.	Yes
3.	very well
4.	nil
5.	Fine
6.	Must be made more understandable for policy makers by reducing all technical terms to simple ones as much as possible.
7.	none, this updated version is superb!
8.	It is very good, should be re-issued periodically.
9.	No comment

9. You plan to use Argo data for:

	Response Percent	Response Total
Oceanographic Research	**73.7%**	**56**
Operational Oceanography	26.3%	20
Climate Research	36.8%	28
Environment	9.2%	7
Ocean Analysis Products	28.9%	22
Technology Issues	9.2%	7
Other (please specify)	15.8%	12
Total Respondents		**76**
(skipped this question)		6

Other:

You plan to use Argo data for:	
1.	high school unit on finding patterns in real data and analyzing that data
2.	research for my 6th grader on oceans' impact on weather
3.	essay
4.	personal education
5.	Teaching Ocean sciences
6.	Information about Climate Change
7.	curiosity
8.	I don't intend using the data.
9.	performance monitoring
10.	theoritic data analysis research
11.	i have something 3000.underwater robot
12.	Not a data user but promoting data use

10. You area of interest is:		
	Response Percent	Response Total
Global	**43%**	**34**
Atlantic Ocean	10.1%	8
Atlantic - North	16.5%	13
Atlantic - Equatorial	7.6%	6
Atlantic - South	5.1%	4
Pacific Ocean	15.2%	12
Pacific - North	11.4%	9
Pacific - Equatorial	11.4%	9
Pacific - South	8.9%	7
Indian Ocean	19%	15
Arctic Ocean	5.1%	4
Southern Ocean	12.7%	10
Mediterranean Sea	6.3%	5
Other (please specify)	2.5%	2
	Total Respondents	**79**
	(skipped this question)	**3**

Other:

You area of interest is:	
1.	History and International peace studies. have interest in environmental debate.
2.	International relations

11. Where do you access Argo data?			
		Response Percent	Response Total
Argo Global Data Centre – Coriolis (FR mirror)		46.7%	35
Argo Global Data Centre – GODAE (USA mirror)		**50.7%**	**38**
Global Telecommunication System of WMO		10.7%	8
Argo Regional Data Centres		18.7%	14
CDROM		2.7%	2
Elsewhere (please specify)		10.7%	8
		Total Respondents	**75**
		(skipped this question)	7

Other:

Where do you access Argo data?	
1.	ask.com search
2.	University web site.
3.	none
4.	I don't
5.	I don't. have access.
6.	GTSPP
7.	I use the Ascii mirror program written in Canada.
8.	N/A

12. What data format do you prefer?			
		Response Percent	Response Total
netCDF		**63.2%**	**43**
ASCII		51.5%	35
TESAC		2.9%	2
BUFR		1.5%	1
Other (please specify)		5.9%	4
		Total Respondents	**68**
		(skipped this question)	**14**

Other:

What data format do you prefer?	
1.	txt
2.	none
3.	netCDF-CF convention
4.	not applicable. I am more interested in products

13. How often do you download Argo data?	Response Percent	Response Total
Every hour	0%	0
Every 3 hours	0%	0
Every 6 hours	0%	0
Bi-daily	0%	0
Daily	11.8%	8
Weekly	20.6%	14
Monthly	**33.8%**	**23**
Yearly	20.6%	14
Other (please specify)	22.1%	15
	Total Respondents	**68**
	(skipped this question)	**14**

Other:

How often do you download Argo data?	
1.	looking for historical data as well as daily current data
2.	not sure yet
3.	OCCASIONALY
4.	first time
5.	opportunistically
6.	when need
7.	whilst collecting data for thesis
8.	never
9.	never
10.	as and when need arises. I do not do analyse the data on operational basis
11.	every 6 months
12.	on demand
13.	NA
14.	After initial deployment checks, we don't check anymore- our modelers do

14. You access data at GDACS via:	Response Percent	Response Total
http	**53%**	**35**
ftp	50%	33
Live Access Server	18.2%	12
subscription	1.5%	1
Other (please specify)	6.1%	4
Total Respondents		**66**
(skipped this question)		**16**

You access data at GDACS via:	
1.	directly as my office is located at ifremer
2.	NA
3.	The Canadian mirror program
4.	N/A

15. Which data files do you use at GDACs?	Response Percent	Response Total
Individual Profiles	53.3%	32
Multi Profiles	**60%**	**36**
Trajectories	41.7%	25
Technical Data	23.3%	14
Metadata	31.7%	19
Total Respondents		**60**
(skipped this question)		**22**

16. Which additional data you would like to use? (This implies equipping the floats with new sensors)

	Response Percent	Response Total
Sea Surface Temperature	**62.9%**	**39**
Sea Surface Salinity	59.7%	37
Wind/Rain gauge (acoustic)	37.1%	23
Dissolved Oxygen	51.6%	32
Biological	38.7%	24
Other (please specify)	16.1%	10
	Total Respondents	**62**
	(skipped this question)	20

Other:

Which additional data you would like to use? (This implies equipping the floats with new sensors)

1.	correlation of ocean activity and weather
2.	downward velocity of float ie may get caught in convecting plume and allow for estimates of downward vertical velocity of plume, similar to methods used for gliders
3.	depth temp
4.	TRITON
5.	Drift at parking depth
6.	ocean climate and currents
7.	turbulence microstructure
8.	Position & Pressure when float drifting at parking level
9.	fluorescence
10.	N/A

17. How well are you satisfied with the data access at GDACs ?

FR GDAC						
	Very Good	**Good**	**Average**	**Bad**	**Very Bad**	**Response Total**
General data access	34% (11)	**50% (16)**	9% (3)	0% (0)	6% (2)	**32**
Web Interface	23% (6)	**54% (14)**	19% (5)	0% (0)	4% (1)	**26**
FTP server	32% (8)	**44% (11)**	24% (6)	0% (0)	0% (0)	**25**
Live Access Server	6% (1)	**56% (9)**	25% (4)	12% (2)	0% (0)	**16**
Subscription	21% (3)	**43% (6)**	29% (4)	7% (1)	0% (0)	**14**
Data quality	27% (8)	**53% (16)**	20% (6)	0% (0)	0% (0)	**30**
Data timeliness	20% (5)	**48% (12)**	32% (8)	0% (0)	0% (0)	**25**
Data quantity	28% (7)	**56% (14)**	16% (4)	0% (0)	0% (0)	**25**
Data accuracy	22% (5)	**52% (12)**	22% (5)	0% (0)	4% (1)	**23**
USA GDAC						
	Very Good	**Good**	**Average**	**Bad**	**Very Bad**	**Response Total**
General data access	**52% (13)**	36% (9)	8% (2)	4% (1)	0% (0)	**25**
Web Interface	40% (8)	**45% (9)**	15% (3)	0% (0)	0% (0)	**20**
FTP server	**52% (12)**	35% (8)	13% (3)	0% (0)	0% (0)	**23**
Live Access Server	20% (3)	**53% (8)**	27% (4)	0% (0)	0% (0)	**15**
Subscription	20% (2)	**60% (6)**	20% (2)	0% (0)	0% (0)	**10**
Data quality	42% (10)	**50% (12)**	8% (2)	0% (0)	0% (0)	**24**
Data timeliness	**52% (11)**	38% (8)	10% (2)	0% (0)	0% (0)	**21**
Data quantity	29% (6)	**52% (11)**	19% (4)	0% (0)	0% (0)	**21**
Data accuracy	32% (6)	**42% (8)**	16% (3)	0% (0)	11% (2)	**19**
					Total Respondents	**48**
					(skipped this question)	**34**

18. How well are you statisfied with the data access on the GTS of WMO?						
	Very Good	**Good**	**Average**	**Bad**	**Very Bad**	**Response Total**
General data access	23% (7)	**67% (20)**	7% (2)	0% (0)	3% (1)	**30**
Data quality	28% (8)	**45% (13)**	21% (6)	3% (1)	3% (1)	**29**
Data timeliness	21% (6)	**57% (16)**	14% (4)	4% (1)	4% (1)	**28**
Data quantity	26% (7)	**52% (14)**	19% (5)	0% (0)	4% (1)	**27**
Data accuracy	21% (6)	**48% (14)**	24% (7)	3% (1)	3% (1)	**29**
					Total Respondents	**30**
					(skipped this question)	**52**

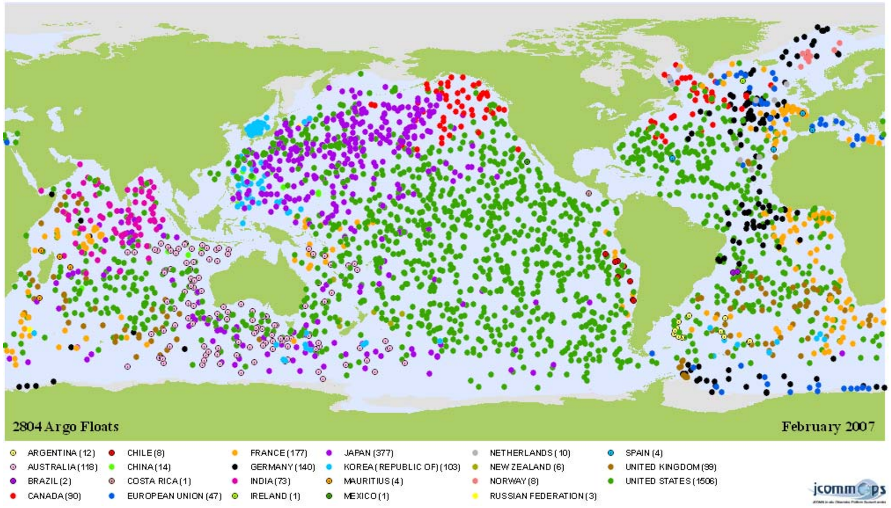
19. What do you think of the Argo data support ?						
	Very Good	**Good**	**Average**	**Bad**	**Very Bad**	**Response Total**
Documentation	26% (15)	**51% (29)**	21% (12)	2% (1)	0% (0)	**57**
Response to queries	25% (12)	**50% (24)**	21% (10)	4% (2)	0% (0)	**48**
					Total Respondents	**58**
					(skipped this question)	**24**

20. Please enter here your suggestions regarding the Argo data system	
Total Respondents	**17**
(skipped this question)	**65**

Please enter here your suggestions regarding the Argo data system	
1.	You are doing a great job. Keep it up!
2.	Txt data should be accessible for all scientist
3.	i hopethat the argo system could make the access morefreedly and quickly
4.	good
5.	About documentation : the QC procedures are described but they are very general and not precise enough to know exactly what is done
6.	i have staf 3000 underwater robet and that in africa same where but the person get the staf his in africa so he contact me to tall france or canada and this robot is from france so i need to tall my email www.rajo_37@
7.	I would like to get the float data from other countries/instituts in the same format as I get ours via ftp.
8.	more QC work for the Argo data
9.	I would like to reconfirm the need for high-quality delayed-mode data.
10.	None yet
11.	Its a very good data set. Keep it up.
12.	I think the NetCDF files are too heavy. If we use 2-byte integer in the NetCDF files, they will become more light. Furthermore, I feel that ASCII format is better than NetCDF format, because it is easier to use ASCII files.
13.	I recommend that more convenient style (e.g. format, access speed) data are produced.
14.	You must unify the data format of trajectory file. It is quite different between each DAC's one, which force users hard to analyze trajectory data.
15.	Ruducing the default data such as beginning decsent time and endding ascent time in trajectory file,parking pressure in metadata file,decending time,ascending time and surfacing time in metadata file and so on.
16.	For our operational oceanography purposes, the Argo data system serves us well and we are pleased with the excellent service.
17.	The Web interface at the Coriolis GDAC is a very nice tool to get ARGO and other trajectory and profile data for a custom-selected region. This is particularly the case for users that do not deal with the data technicalities on a daily basis. However, there often is a problem with accessing this website, presumeably due to useage overload? As this is a unique tool (as far as i can see the US GDAC does not have such a nice map selection tool with convenient netcdf summary files), i would suggest to give additional computing capacity and/or internet bandwidth to this tool. the whole ARGO community should be interested and provide additional support to Coriolis for this, if necessary.

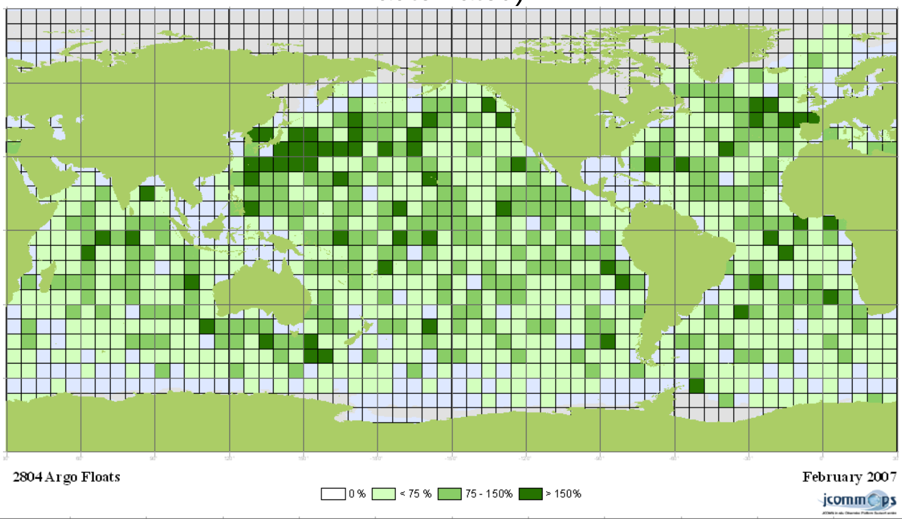
21. Please enter your email address here if you wish to be informed of future changes and improvements to the Argo data service	
Total Respondents	**36**
(skipped this question)	46

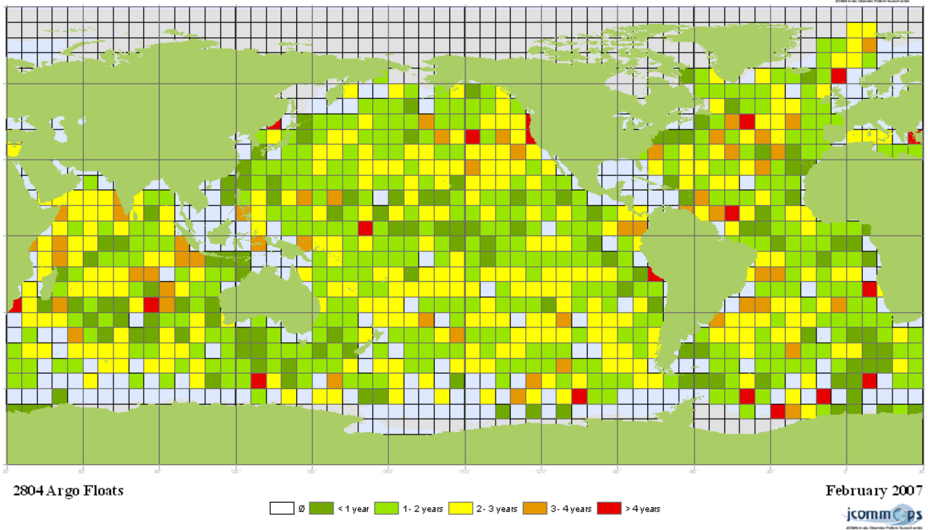
Annex 2: Examples of new products



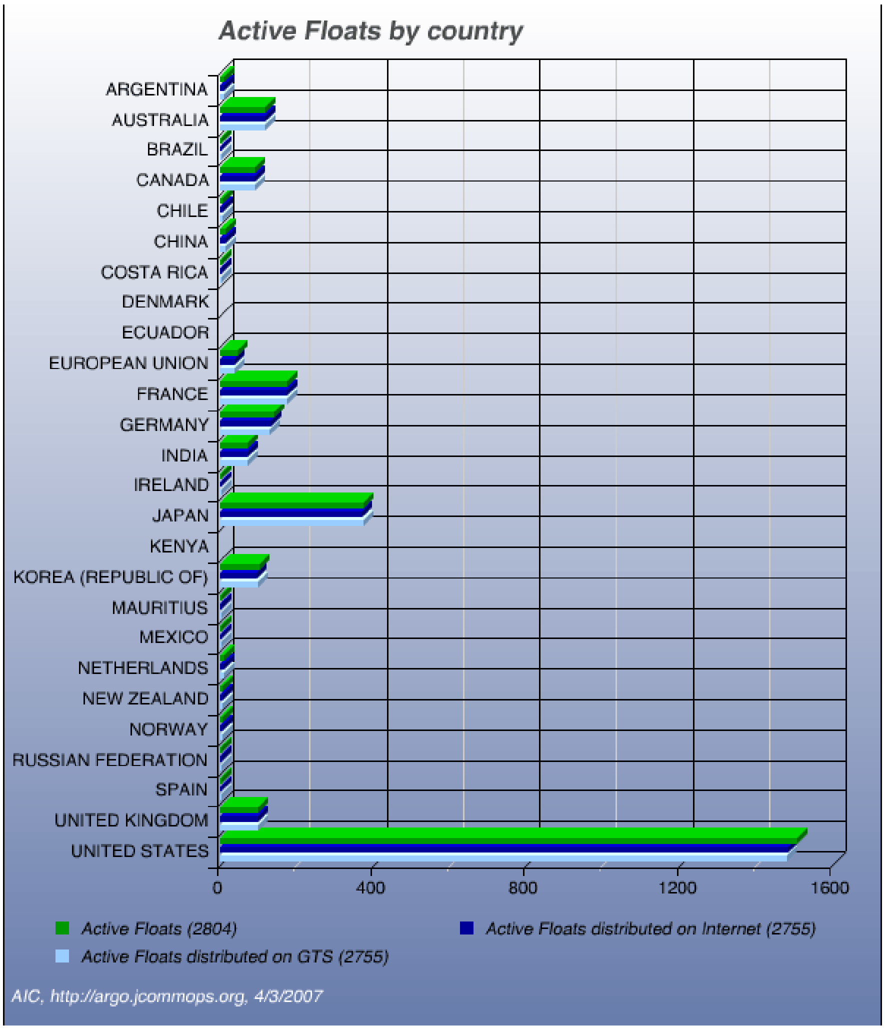
New monthly map design

(View shifted ten degrees east to give more visibility to Med. Sea - legend production automated)



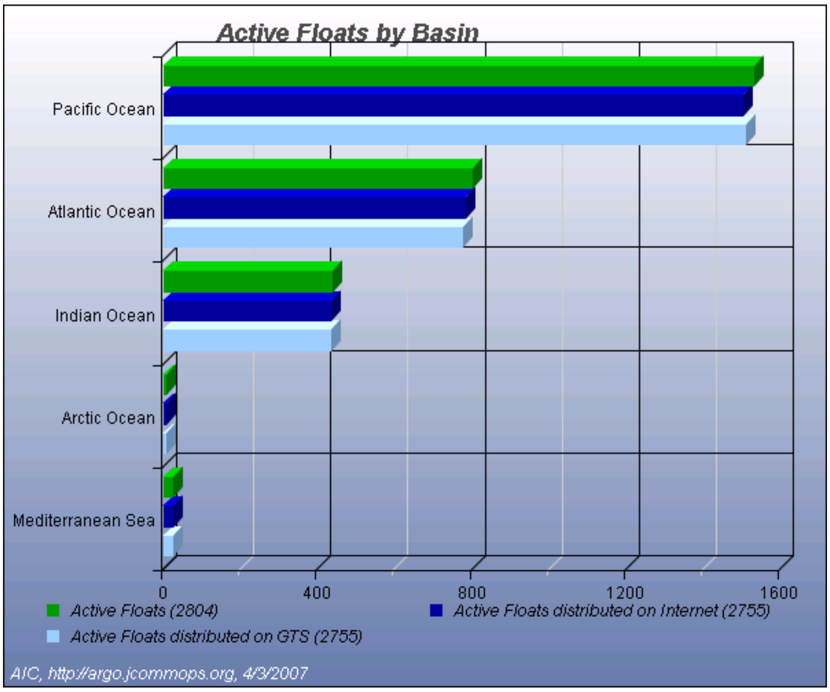


New coverage maps (density and age)



Active floats and data distribution status

(Chart also available for, programs, basins, and float models)



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total
ARGENTINA	0	0	0	0	0	0	0	0	0	12	0	12
AUSTRALIA	0	0	4	6	0	12	8	5	62	46	2	145
BRAZIL	0	0	0	0	0	0	0	0	3	0	0	3
CANADA	2	0	1	0	30	38	31	30	28	38	0	198
CHILE	0	0	0	0	0	0	0	0	4	4	0	8
CHINA	0	0	0	0	0	5	16	8	0	6	0	35
COSTA RICA	0	0	0	0	0	0	0	0	2	0	0	2
DENMARK	0	0	0	0	5	0	0	0	0	0	0	5
	0	0	0	0	0	0	0	0	0	0	0	0
EUROPEAN UNION	0	0	0	1	10	70	4	17	16	20	8	146
FRANCE	0	0	6	11	12	7	34	85	89	49	12	305
GERMANY	0	3	3	22	21	14	26	45	65	36	14	249
INDIA	0	0	0	0	0	11	23	30	45	15	0	124
IRELAND	0	0	0	0	0	0	2	0	0	0	0	2
JAPAN	1	12	12	6	40	76	129	118	107	116	27	644
	0	0	0	0	0	0	0	0	0	0	5	5
KOREA (REPUBLIC OF)	0	0	0	0	16	25	32	32	37	33	0	175
MAURITIUS	0	0	0	0	0	0	1	2	0	2	0	5
MEXICO	0	0	0	0	0	0	0	0	2	0	0	2
NETHERLANDS	0	0	0	0	0	0	0	3	4	4	0	11
NEW ZEALAND	0	0	0	0	2	2	0	2	1	3	0	10
NORWAY	0	0	0	0	0	3	6	0	0	2	0	11
SPAIN	0	0	0	0	0	0	7	2	1	1	0	11
UNITED KINGDOM	0	0	0	0	30	37	37	45	28	24	12	213
UNITED STATES	21	10	16	70	129	150	315	443	507	515	33	2209

Official deployments table, by country

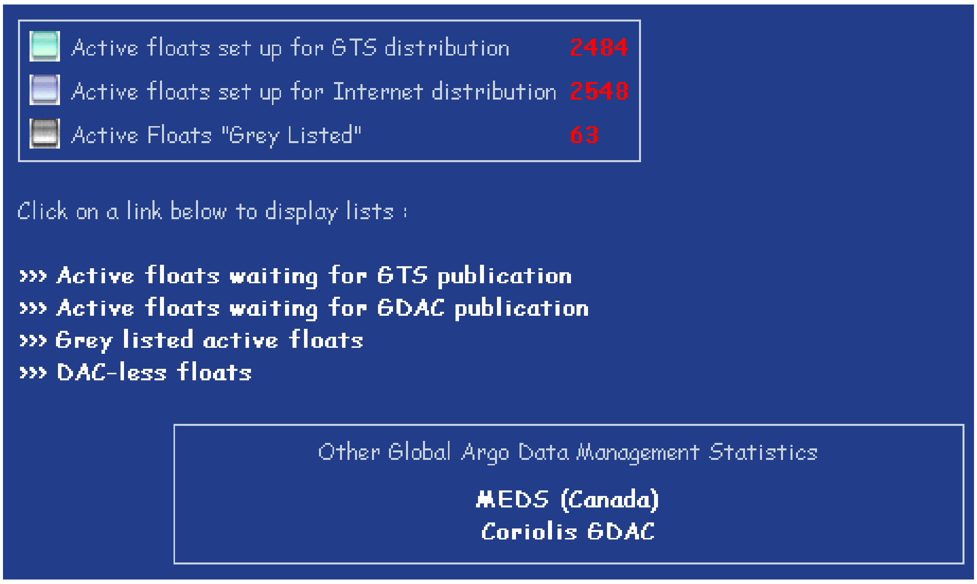
UNITED STATES

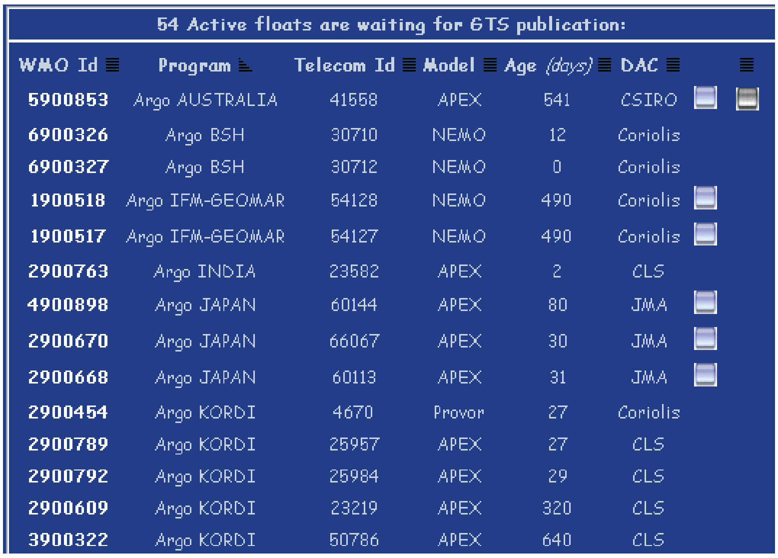
Click on a program for more details.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total	Fleet status		
Argo eq. AOML	14	0	0	13	2	0	0	0	0	0	**29**	5	100%	100%
Argo eq. NAVOCEANO	0	0	0	19	7	22	18	20	9	17	**112**	33	100%	100%
Argo eq. PMEL	0	0	0	0	10	12	0	0	0	0	**22**	1	100%	100%
Argo WHOI	0	0	0	0	26	34	97	93	132	109	**491**	341	98%	99%
Argo SIO	0	0	0	15	77	10	90	126	141	123	**582**	357	97%	98%
Argo UW	0	1	0	23	4	71	103	119	108	59	**488**	385	96%	96%
Argo eq. NDBC	0	0	0	0	3	1	0	0	0	0	**4**	0	0%	0%
Argo eq. UW	8	9	36	0	0	0	0	0	0	0	**53**	0	0%	0%
Argo PMEL	0	0	0	0	0	0	1	59	86	57	**203**	189	100%	100%
Argo eq. WHOI	0	0	0	0	0	0	4	0	0	0	**4**	0	0%	0%
Argo eq. FSU	0	0	0	0	0	0	0	7	0	0	**7**	6	100%	100%
Argo eq. UH	0	0	0	0	0	0	1	19	28	0	**48**	42	100%	100%
Argo eq. UW-UA	0	0	0	0	0	0	0	0	2	2	**4**	3	100%	100%
Total	22	10	36	70	129	150	314	443	506	367	2047	1362		

Legend ...

Details for a specified country





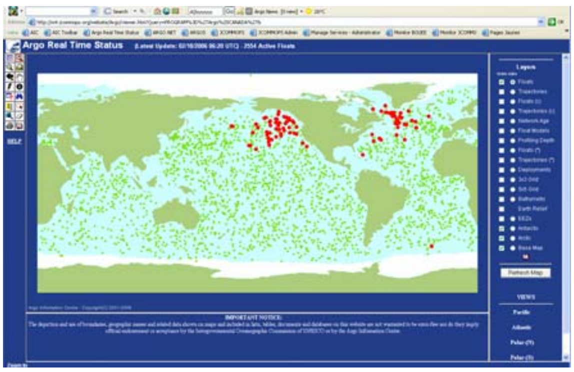
54 Active floats are waiting for GTS publication:

WMO Id	Program	Telecom Id	Model	Age (days)	DAC
5900853	Argo AUSTRALIA	41558	APEX	541	CSIRO
6900326	Argo BSH	30710	NEMO	12	Coriolis
6900327	Argo BSH	30712	NEMO	0	Coriolis
1900518	Argo IFM-GEOMAR	54128	NEMO	490	Coriolis
1900517	Argo IFM-GEOMAR	54127	NEMO	490	Coriolis
2900763	Argo INDIA	23582	APEX	2	CLS
4900898	Argo JAPAN	60144	APEX	80	JMA
2900670	Argo JAPAN	66067	APEX	30	JMA
2900668	Argo JAPAN	60113	APEX	31	JMA
2900454	Argo KORDI	4670	Provor	27	Coriolis
2900789	Argo KORDI	25957	APEX	27	CLS
2900792	Argo KORDI	25984	APEX	29	CLS
2900609	Argo KORDI	23219	APEX	320	CLS
3900322	Argo KORDI	50786	APEX	640	CLS

...

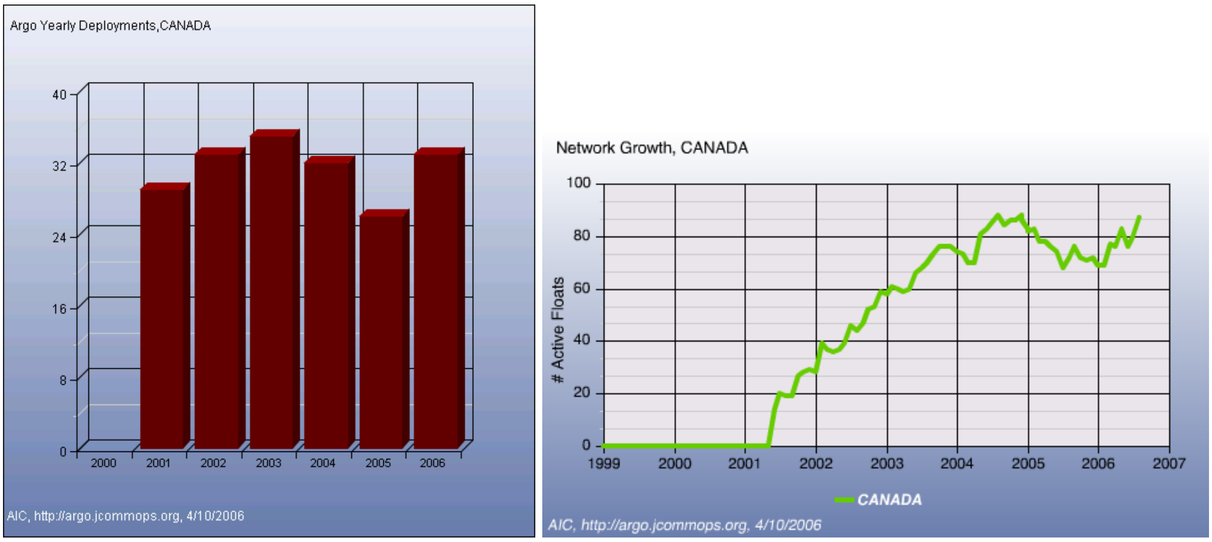
Data distribution status

Data distribution is monitored on a daily basis, float per float, on the two channels of distribution.

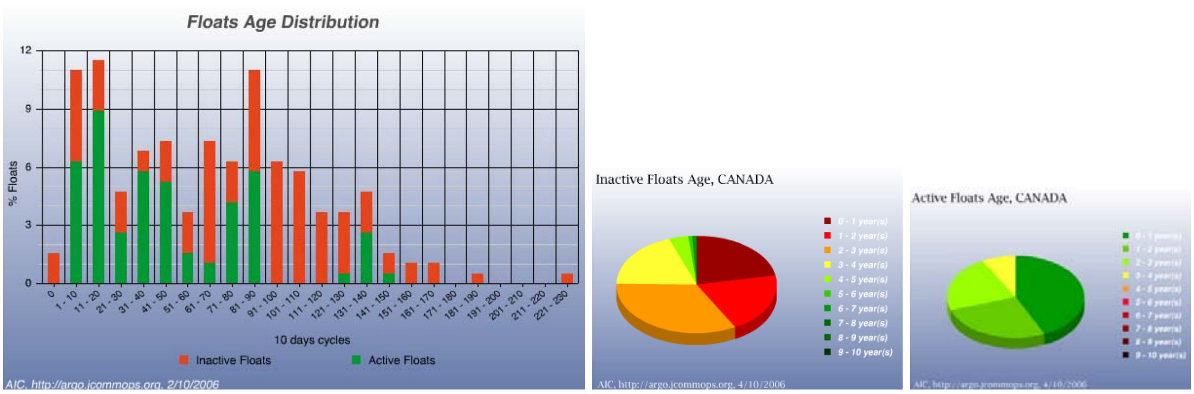


Canadian active fleet,

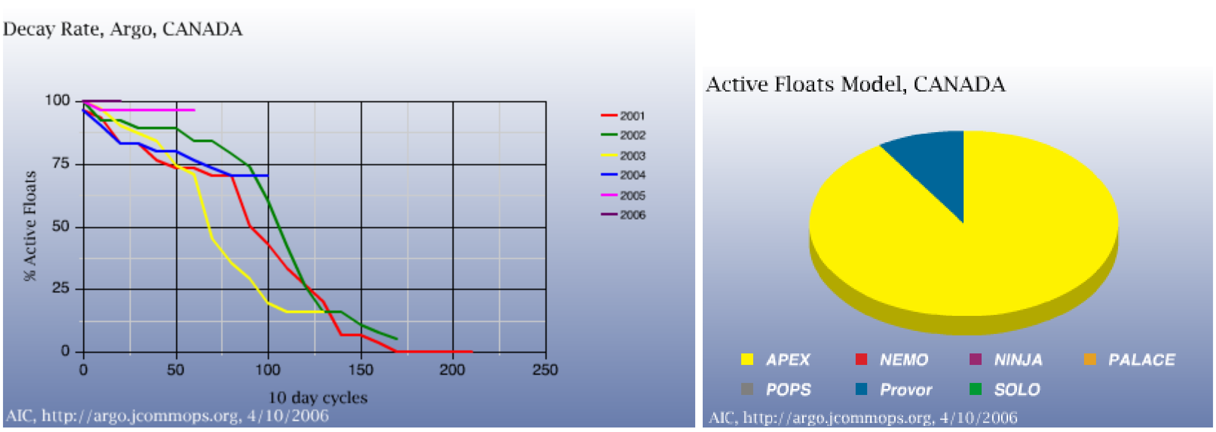
(Every country or program can gain direct access to its fleet on the map)


Argo Yearly Deployments,CANADA
40
32
24
16
8
0
2000
2001
2002
2003
2004
2005
2006
AIC, http://argo.jcommops.org, 4/10/2006
Network Growth, CANADA
100
80
60
40
20
0
Active Floats
1999
2000
2001
2002
2003
2004
2005
2006
2007
CANADA
AIC, http://argo.jcommops.org, 4/10/2006

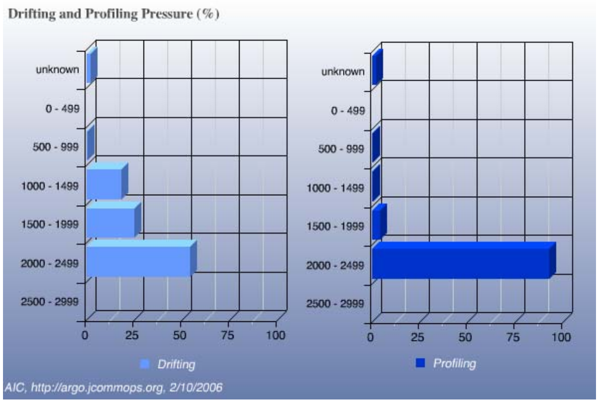
(a,b)

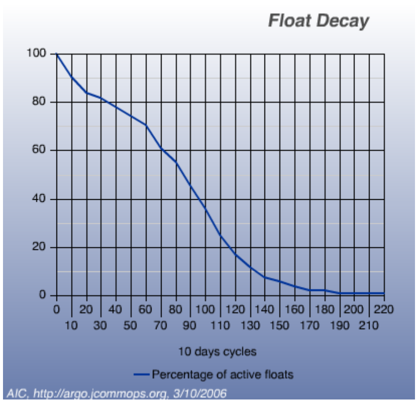

Floats Age Distribution
12
9
6
3
0
% Floats
0
1 - 10
11 - 20
21 - 30
31 - 40
41 - 50
51 - 60
61 - 70
71 - 80
81 - 90
91 - 100
101 - 110
111 - 120
121 - 130
131 - 140
141 - 150
151 - 160
161 - 170
171 - 180
181 - 190
191 - 200
201 - 210
211 - 220
221 - 230
10 days cycles
Inactive Floats
Active Floats
AIC, http://argo.jcommops.org, 2/10/2006
Inactive Floats Age, CANADA
Active Floats Age, CANADA

(c,d,e)


Decay Rate, Argo, CANADA
100
75
50
25
0
% Active Floats
0
50
100
150
200
250
10 day cycles
2001
2002
2003
2004
2005
2006
AIC, http://argo.jcommops.org, 4/10/2006
Active Floats Model, CANADA
APEX
NEMO
NINJA
PALACE
POPS
Provor
SOLO
AIC, http://argo.jcommops.org, 4/10/2006

(f,g)



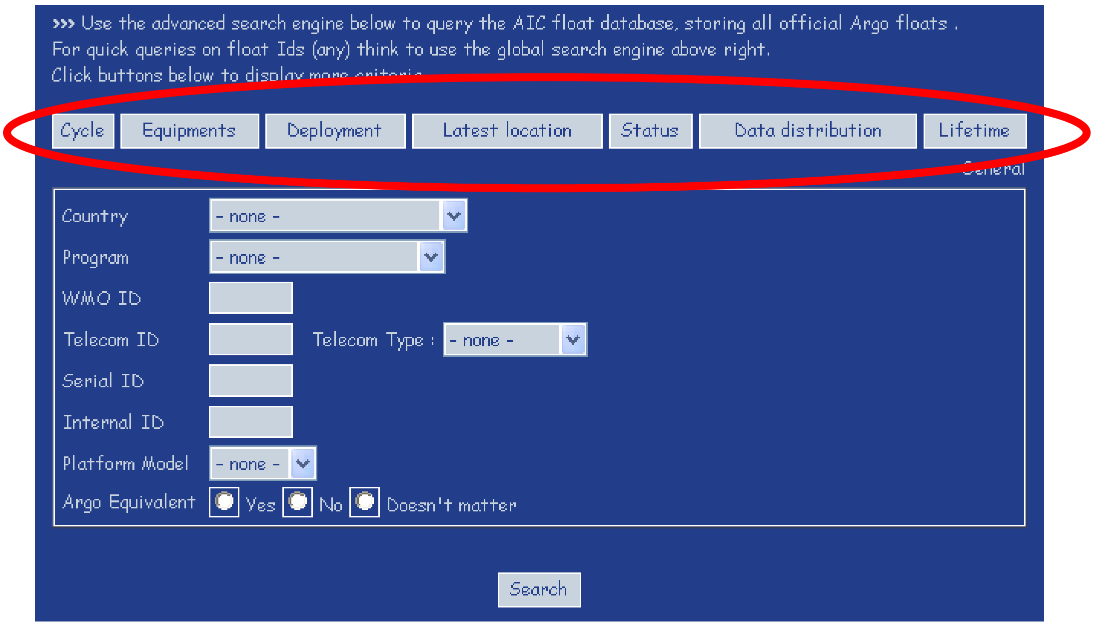


(h,i)

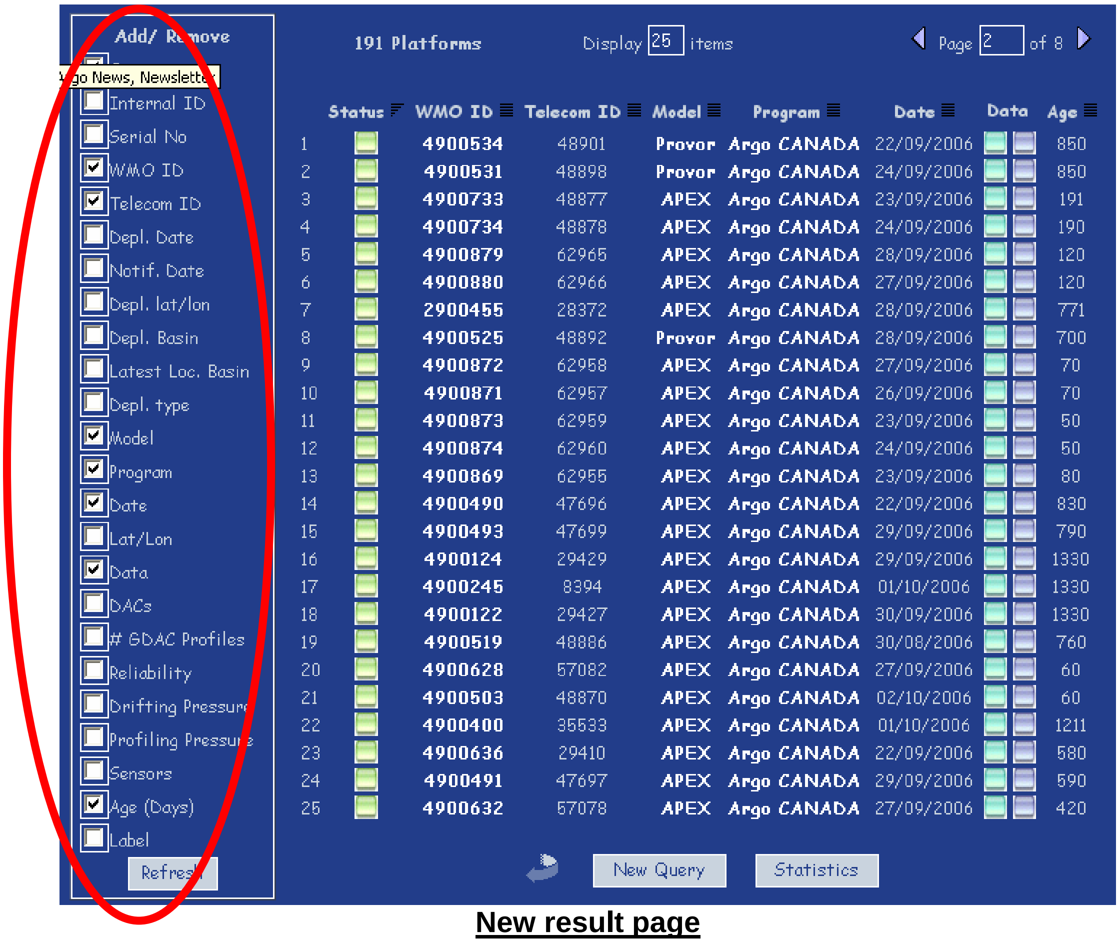
<u>Descriptive statistics (e.g.) for the Canadian fleet</u>

a) Yearly deployment bar chart
b) Network growth (active floats/time)
c,d,e) Age distribution bar/pie charts
f) Decay rate for each generation of floats (yearly)
g) float models distribution pie chart
h) Drifting and profiling pressure bar charts
i) Float decay for all (dead) Canadian floats

<u>Remark:</u>
All of these statistics can be generated on the fly for any float group defined by the float search engine (see below).



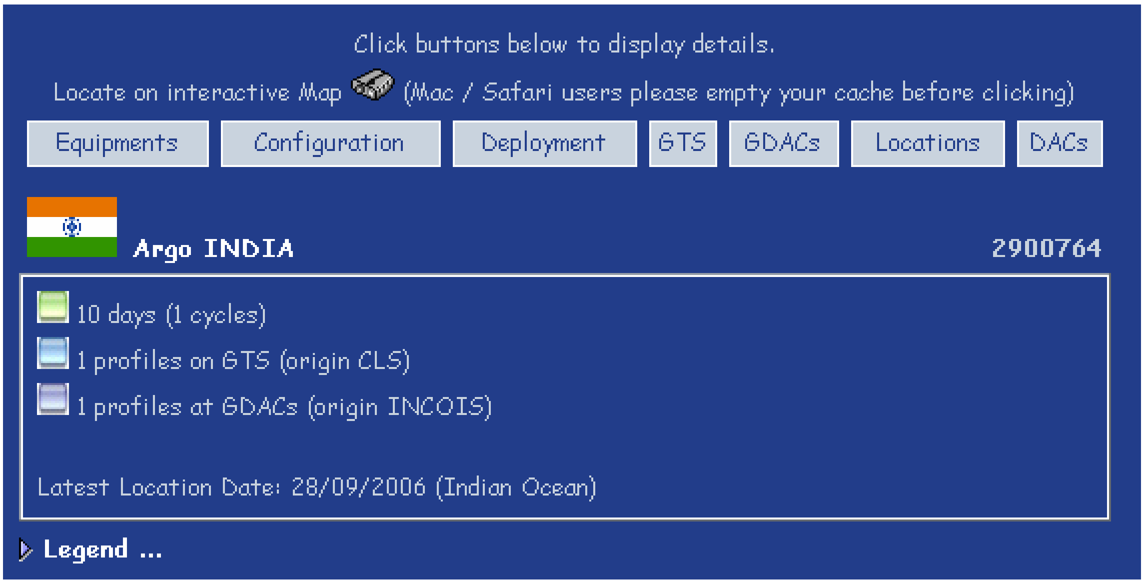
<u>Float Search Engine</u>
(query interface with many new criteria)



	Status	WMO ID	Telecom ID	Model	Program	Date	Data	Age
1		4900534	48901	Provor	Argo CANADA	22/09/2006		850
2		4900531	48898	Provor	Argo CANADA	24/09/2006		850
3		4900733	48877	APEX	Argo CANADA	23/09/2006		191
4		4900734	48878	APEX	Argo CANADA	24/09/2006		190
5		4900879	62965	APEX	Argo CANADA	28/09/2006		120
6		4900880	62966	APEX	Argo CANADA	27/09/2006		120
7		2900455	28372	APEX	Argo CANADA	28/09/2006		771
8		4900525	48892	Provor	Argo CANADA	28/09/2006		700
9		4900872	62958	APEX	Argo CANADA	27/09/2006		70
10		4900871	62957	APEX	Argo CANADA	26/09/2006		70
11		4900873	62959	APEX	Argo CANADA	23/09/2006		50
12		4900874	62960	APEX	Argo CANADA	24/09/2006		50
13		4900869	62955	APEX	Argo CANADA	23/09/2006		80
14		4900490	47696	APEX	Argo CANADA	22/09/2006		830
15		4900493	47699	APEX	Argo CANADA	29/09/2006		790
16		4900124	29429	APEX	Argo CANADA	29/09/2006		1330
17		4900245	8394	APEX	Argo CANADA	01/10/2006		1330
18		4900122	29427	APEX	Argo CANADA	30/09/2006		1330
19		4900519	48886	APEX	Argo CANADA	30/08/2006		760
20		4900628	57082	APEX	Argo CANADA	27/09/2006		60
21		4900503	48870	APEX	Argo CANADA	02/10/2006		60
22		4900400	35533	APEX	Argo CANADA	01/10/2006		1211
23		4900636	29410	APEX	Argo CANADA	22/09/2006		580
24		4900491	47697	APEX	Argo CANADA	29/09/2006		590
25		4900632	57078	APEX	Argo CANADA	27/09/2006		420

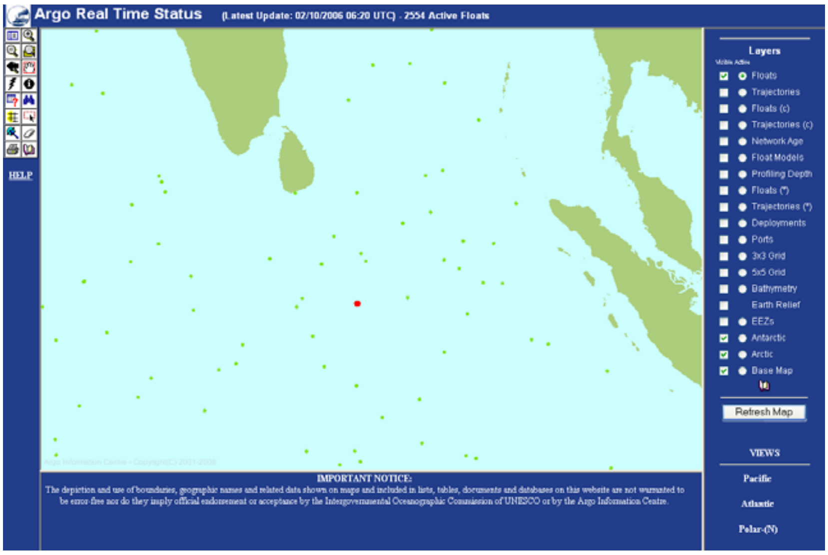
New result page

(Many new parameters to be displayed or hidden)

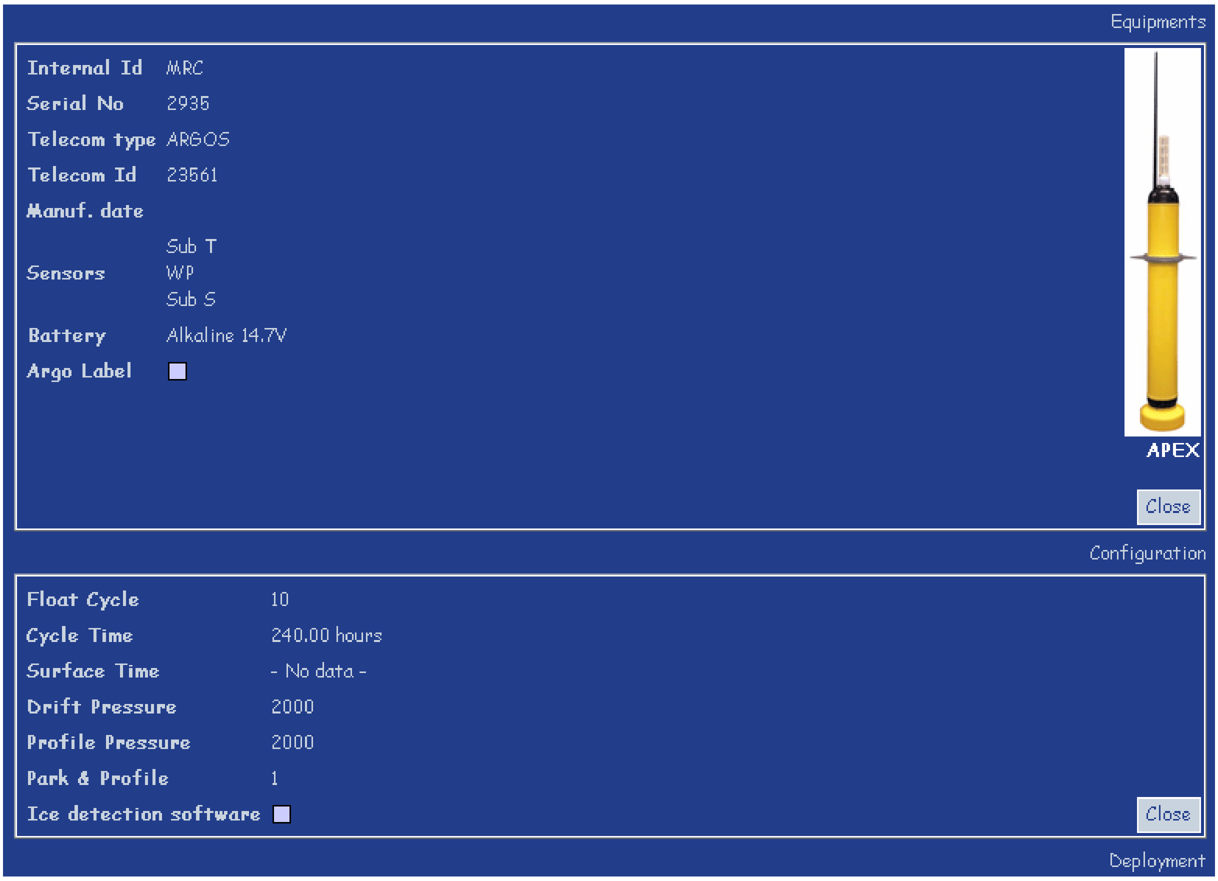


Platform Inspect Page

All information recorded in the database for a platform is visible here, including:

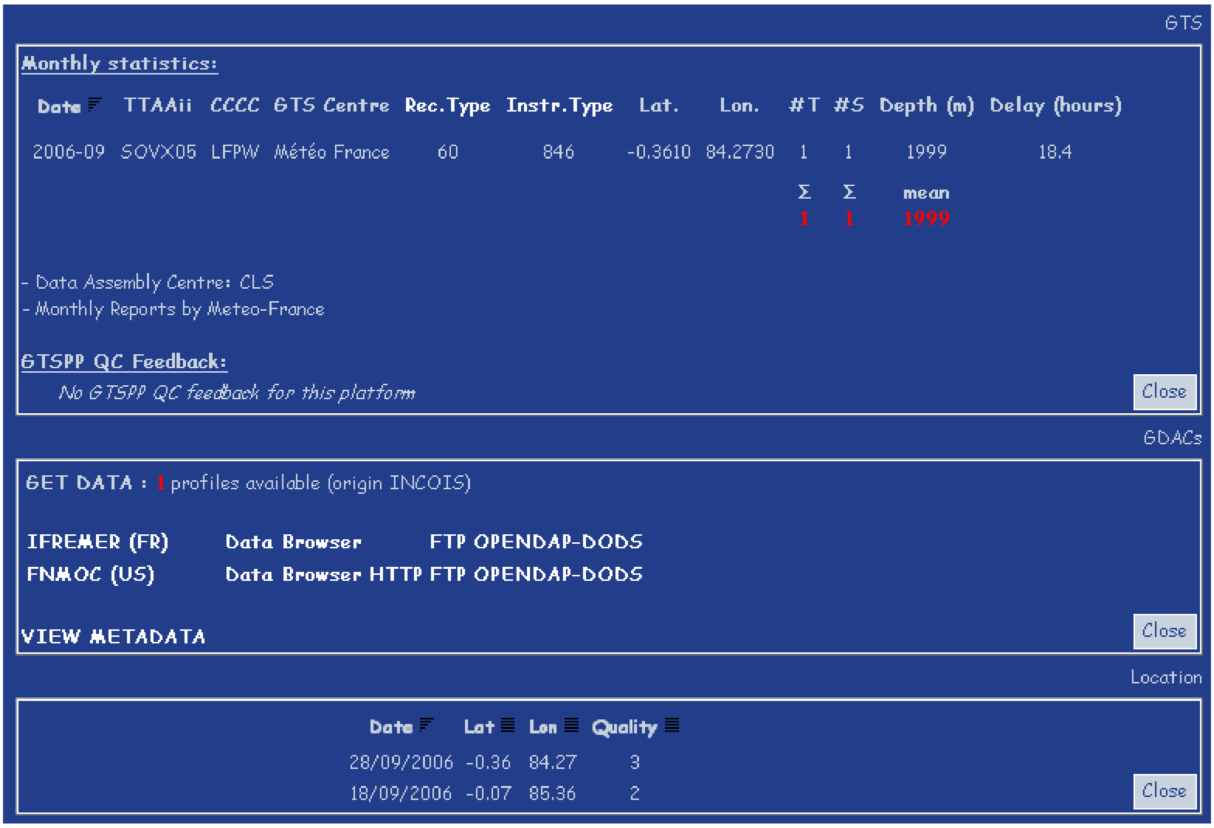


Direct zoom on interactive map to locate the platform
(Vice versa, any click on a platform on the map leads to the "Platform Inspect Page")



Equipments and configuration

Deployment Conditions



Monthly GTS Statistics, Access to Data (and metadata files) at GDACs, list of locations

(The TC in admin mode can edit any element and particularly flag the wrong locations on the fly or swap the two location solutions of the Doppler/Argos location system – which is a common cause of errors)

Argo Metadata Explorer

Download latest version of metadata file (USA/FNMOC)

N_CYCLE	1
PLATFORM_NUMBER	5900778
ANOMALY	n / a
PLATFORM_MODEL	S O L O _ S B E

Equipement

PTT	22765
TRANS_SYSTEM	A R G O S
SENSORS	PRES
	TEMP
	CNDC
	SBE
SENSOR_MAKER	SBE
	SBE
	n/a
SENSOR_MODEL	SBE41CP
	SBE41CP

Configuration

CYCLE_TIME	9.6175
PARKING_PRESSURE	1000.0
PARKING_TIME	8.5668
DEEPEST_PRESSURE	1836.0
SURFACE_TIME	18.0
REPETITION_RATE	1
DIRECTION	A

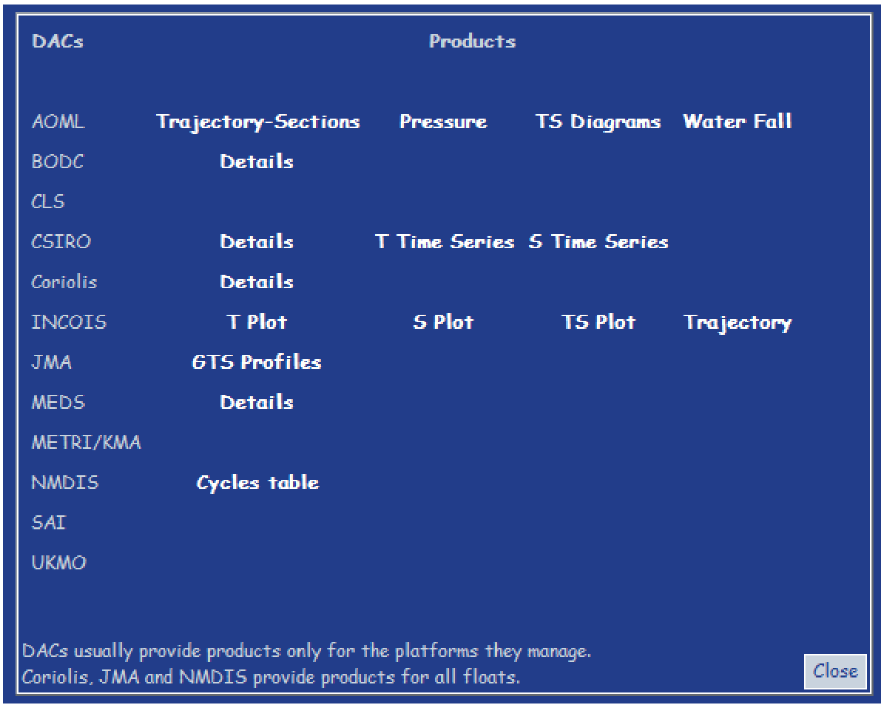
Deployment

DEPLOY_PLATFORM	r / v T a n g a r o a
LAUNCH_DATE	18/04/2005
LAUNCH_LAT	-49.75
LAUNCH_LON	-140.50
DEPLOY_MISSION	u n k n o w n
DEPLOY_AVAILABLE_PROFILE_ID	n / a
END_MISSION_DATE	
END_MISSION_STATUS	

DATE_CREATION	01/10/06
DATE_UPDATE	01/10/06
DATA_CENTRE	A O

Read on the fly from USA/FNMOC Global Data Centre

Argo netCDF Metadata file explorer

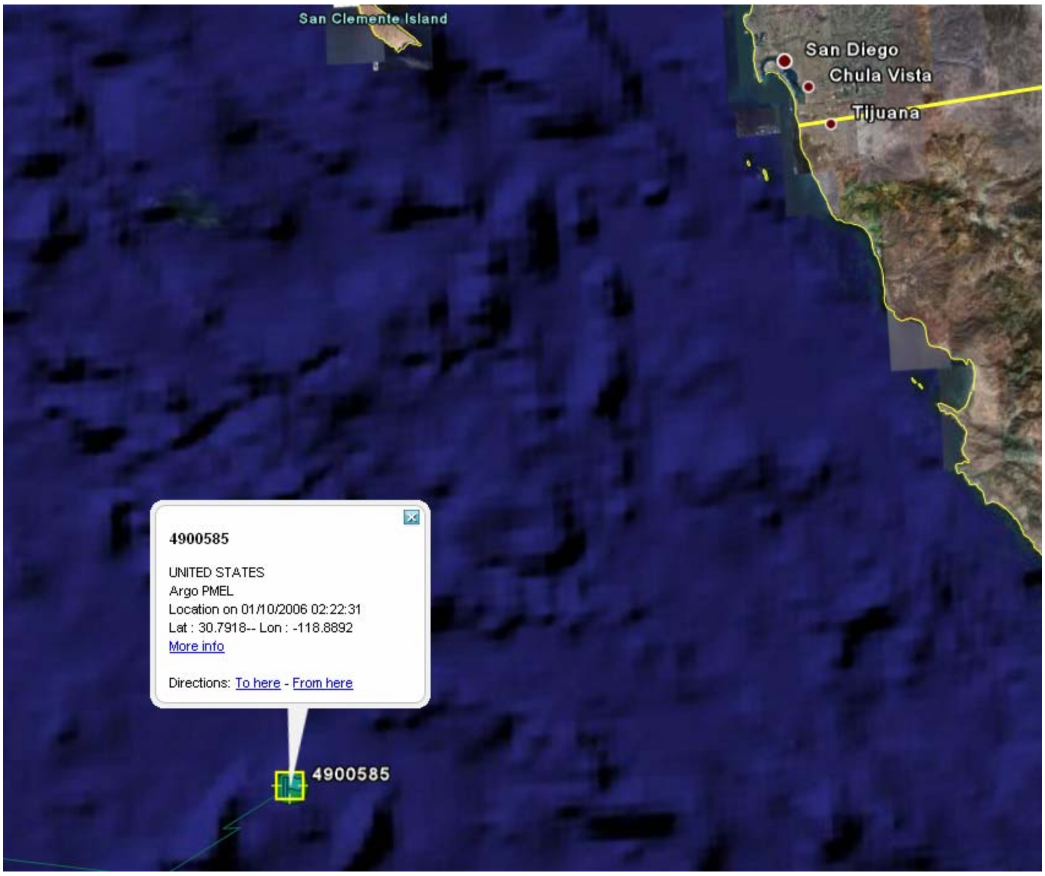


DACs	Products			
AOML	Trajectory-Sections	Pressure	TS Diagrams	Water Fall
BODC	Details			
CLS				
CSIRO	Details	T Time Series	S Time Series	
Coriolis	Details			
INCOIS	T Plot	S Plot	TS Plot	Trajectory
JMA	6TS Profiles			
MEDS	Details			
METRI/KMA				
NMDIS	Cycles table			
SAI				
UKMO				

DACs usually provide products only for the platforms they manage.
Coriolis, JMA and NMDIS provide products for all floats.

Close

Links to national DAC products
(All DAC websites providing products on an individual float are linked here)



Zoom on a float near San Diego with Google Earth
(a click on More info will open the Platform Inspect Page)

Annex 3: One week of AIC website audience:

Application Statistics					
	Transactions	Average Transaction Time	Average Idle Time	Moving Average* Transaction Time	Moving Average* Idle Time
Overall	7906	0.874	77.217	0.716	62.180
Component Actions	7330	0.888	NA		NA
Direct Actions	576	0.688	NA		NA
Started at	11:58:05 on Thu, Oct 05 2006 Europe/Paris				
Running time	7 days, 3 hours, 29 minutes, 49 seconds				

* The sample size for Moving Averages is 100 transactions.

Sessions Statistics	
Total Sessions Created	2519.00
Session Rate	0.23
Avg. Transactions Per Session	3.14
Sample Size For Moving Avg.	10.00
Current Active Sessions	378.00
Peak Active Sessions	378.00
Moving Avg. Session Life	83.46
Moving Avg. Transactions Per Session	2.49
Avg. Session Life	94.38
Peak Concurrent Sessions at 15:27:50 on Thu, Oct 12 2006 Europe/Paris	

Memory Usage (bytes)	
Total Memory	530,907,136
Free Memory	128,629,808

Avg. Memory Usage Per Session (bytes)	
Total Memory	702,171
Free Memory	-309,996

Component Action Statistics				
Name	Served	Min	Avg	Max
N_Inspect	3	0.196	**1.710**	4.372
Doc_List	45	0.000	**0.235**	0.856
Data_Tools	5	0.001	**0.301**	0.483
Photos_Query	42	0.000	**0.433**	1.149
Argo_Participants	4	0.001	**1.777**	6.118
N_List	85	0.000	**1.466**	18.669
Map_Latest	49	0.000	**9.280**	122.590
Map_GIS_Home	23	0.000	**0.313**	0.624
Project_Status	56	0.000	**2.049**	29.811
Program_Inspect	24	0.000	**1.082**	5.457
Weblink_Edit	1	0.440	**0.440**	0.440
Photos_List	121	0.000	**2.346**	62.227
Help_Home	17	0.001	**0.474**	2.342
Participants_Home	19	0.001	**0.759**	5.026
Map_Home	81	0.000	**0.479**	2.780

More than 200 dynamic components …

…

Map_Query	8	0.175	**0.331**	0.532
Implementation_Retrieval_Home	1	0.582	**0.582**	0.582
Main	4531	0.000	**0.808**	15.033
Loc_Edit	5	0.368	**0.416**	0.507
Map_Misc	1	0.346	**0.346**	0.346
Web_MailingList	2	0.337	**0.400**	0.464
Data_ADMT_Home	3	0.170	**0.353**	0.451
FloatDecay_	6	0.000	**0.002**	0.008
Map_List	18	0.000	**1.727**	5.278
Meeting_List	2	0.000	**0.140**	0.281
Version_List	11	0.001	**0.413**	1.718
Contact_Search	1	0.649	**0.649**	0.649
Instrumentation_Links	2	0.388	**0.401**	0.414
Implementation_EEZs	2	5.399	**5.512**	5.626
Status_Files	9	0.000	**0.151**	0.520
Platform_Inspect	296	0.000	**0.398**	2.691
Weblink_Home	15	0.000	**0.584**	1.767
Doc_Edit	13	0.255	**0.297**	0.442
Weblink_List	5	0.156	**0.247**	0.469
Monitoring_Home	34	0.000	**0.339**	0.614
N_Query	32	0.000	**0.483**	0.784
Instrumentation_Doc	4	0.000	**0.280**	0.571
N_Edit	54	0.000	**1.942**	5.477
Platform_Query	289	0.000	**0.421**	1.662
Data_Home	40	0.000	**0.333**	0.892
Implementation_Deployment_Status	5	7.311	**7.489**	7.683

… plus direct "Web services" used by mapping systems or AIC toolbar

Direct Action Statistics

Name	Served	Min	Avg	Max
notification	18	0.214	**0.406**	0.548
default	31	0.001	**1.540**	2.143
ptf	238	0.012	**0.936**	9.185
WOStata	1	0.108	**0.108**	0.108
country	4	0.905	**1.631**	3.369
maps	8	4.969	**7.003**	15.420
search	21	0.913	**1.182**	2.179
ptfSearch	1	0.321	**0.321**	0.321
status	1	0.449	**0.449**	0.449
map	8	1.970	**2.113**	2.206
floatDecay	245	0.001	**0.050**	1.022

These tools permit to track the use of the AIC dynamic website in order to improve the most used components and detect the problematic ones (regarding loading time).
On this example, during one week, 2500 sessions have been created, the home page has been loaded 4500 times, 300 queries have been made on the float search engine, etc.

Annex 4: Key AIC URLs

All of the following URLs are accessible from http://argo.jcommops.org

Export Files

- **Status files (ASCI, csv)**
  - Active floats, latest location
  http://w3.jcommops.org/FTPRoot/Argo/Status/status.txt
  http://w3.jcommops.org/FTPRoot/Argo/Status/status.txt.gz
  - All Argo official deployments
  http://w3.jcommops.org/FTPRoot/Argo/Status/deployments.txt
  http://w3.jcommops.org/FTPRoot/Argo/Status/deployments.txt.gz
  - All floats locations
  http://w3.jcommops.org/FTPRoot/Argo/Status/loc.txt
  http://w3.jcommops.org/FTPRoot/Argo/Status/loc.txt.gz
  - Deployment Plans
  http://w3.jcommops.org/FTPRoot/Argo/Status/plans.txt

- **Google Earth Files:**
  - http://w3.jcommops.org/FTPRoot/Argo/Status/status.kml (Active floats - latest locations)
  - http://w3.jcommops.org/FTPRoot/Argo/Status/status_full.kml (Active floats - latest locations and trajectories)
  - http://w3.jcommops.org/FTPRoot/Argo/Status/status_inactive.kml (Inactive floats - latest location and trajectories)

Dynamic Pages

- Interactive Map: http://w4.jcommops.org/website/Argo
- Latest status map by country:
  http://w3.jcommops.org/FTPRoot/Argo/Maps/status.png
  http://w3.jcommops.org/FTPRoot/Argo/Maps/status.pdf (High res.)
- Latest Argo maps:
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/maps
- 'ArgoV' ESRI Map Service available on http://w4.jcommops.org
- Float Detail Page (replace X by the 7 digits WMO Id):
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/ptf?wmo=X
- Participating countries/programs statistics (replace X by country/prog. name):
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/country?country=X
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/prog?prog=X
- Float Model Statistics (replace X by APEX, SOLO, Provor, etc)
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/model?model=X
- Deployment planning and notification
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/notification
- Project Status
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/status

- Contact List (replace X by AST, ADMT, NFPs, …)
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/gp?group=X
- Data Distribution Status
  http://wo.jcommops.org/cgi-bin/WebObjects/Argo.woa/wa/dataStats

Annex 5: Argo Mailing Lists

argo@jcommops.org
Argo General Mailing List (~700 subscribers)

argo-dm@jcommops.org
Argo Data Management (137)

argo-dm-dm@jcommops.org
Argo Data Management - Delayed Mode (43)

argo-dm-format@jcommops.org
Argo Data Management - Data Formats (37)

argo-dm-rt@jcommops.org
Argo Data Management - Real Time (37)

argo-dm-traj@jcommops.org
Argo Data Management – Trajectory Files (37)

argo-exec@jcommops.org
Argo Executive (13)

argo-st@jcommops.org
Argo Steering Team (44)

argo-tech@jcommops.org (71)
Argo Technical mailing list (with manufacturers)

argo-naarc@jcommops.org ,
North Atlantic Argo Regional Centre

argo-saarc@jcommops.org
South Atlantic

argo-parc@jcommops.org
Pacific

argo-iarc@jcommops.org
Indian

Additionally, JCOMMOPS maintains DBCP and SOT mailing lists and new lists for GEO: ocean-united@jcommops.org, and for JCOMM news jcomm-news@jcommops.org and jcomm-man@jcommops.org