Argo data management report 2016
Coriolis DAC & GDAC

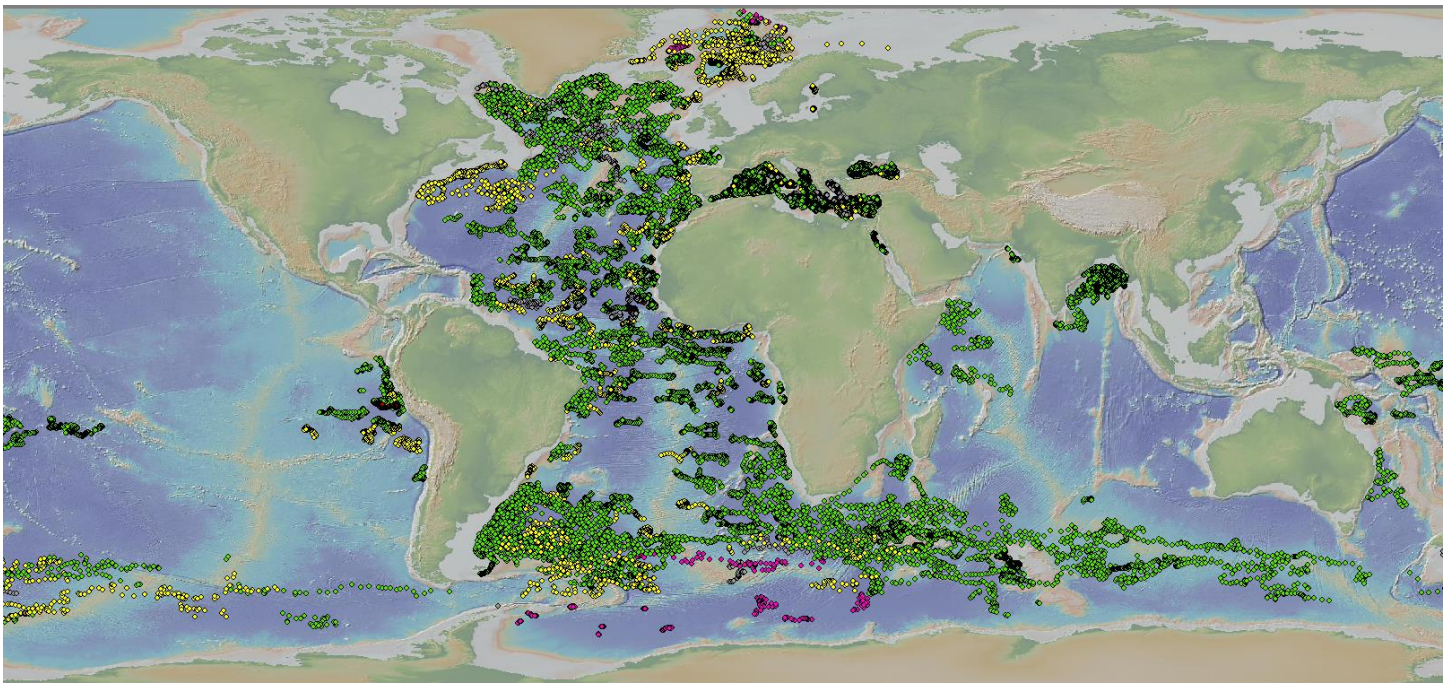
Data Assembly Centre and Global Data Assembly Centre

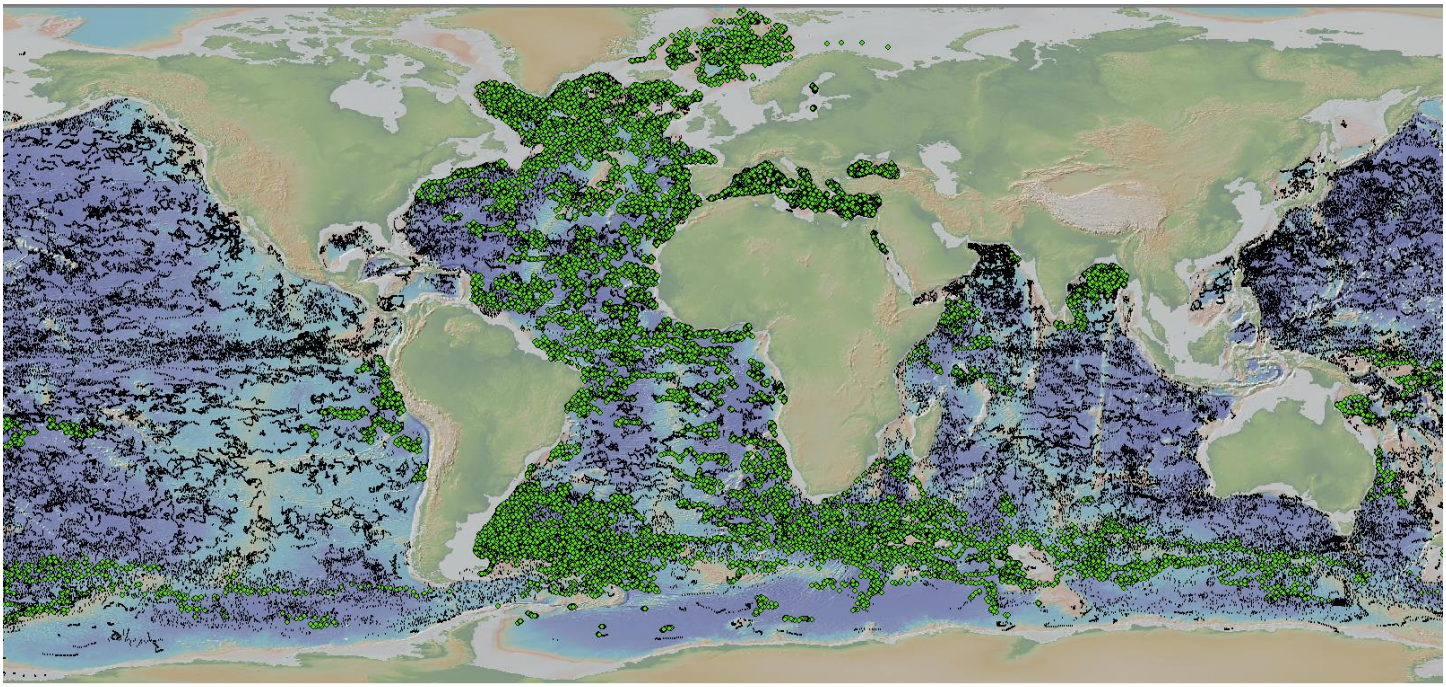
Annual report September 2016

Version 1.0

September 14th, 2016

Reference : http://archimer.ifremer.fr/doc/00350/46128/





DAC status

This report covers the activity of Coriolis data centre for a one-year period from September 1st 2015 to August 31th 2016.

Data acquired from floats

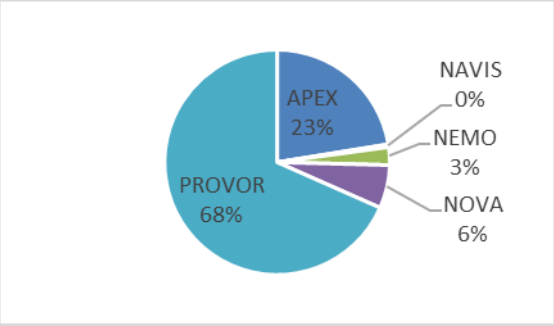
Active floats on the last 12 months

These last 12 months, **29 683 profile files from 740 active floats** were collected, controlled and distributed.

Compared to 2015, **the number of profiles files increased by 16%, the number of floats decreased by 1%.** The increase of profile files with a stable number of floats is explained by a better lifetime of active floats.

The 740 floats managed during that period had 57 versions, from 5 families.

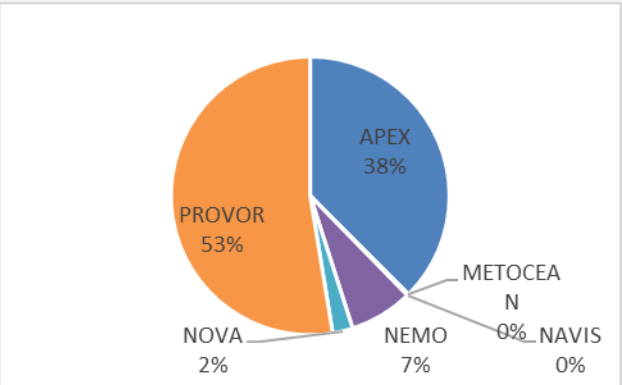
Coriolis DAC, active floats in 2016			
Float family	nb versions	nb floats	nb core profile
APEX	30	166	5 563
NAVIS	1	3	275
NEMO	1	19	526
NOVA	3	46	1 773
PROVOR	22	506	21 546
Total	**57**	**740**	**29 683**

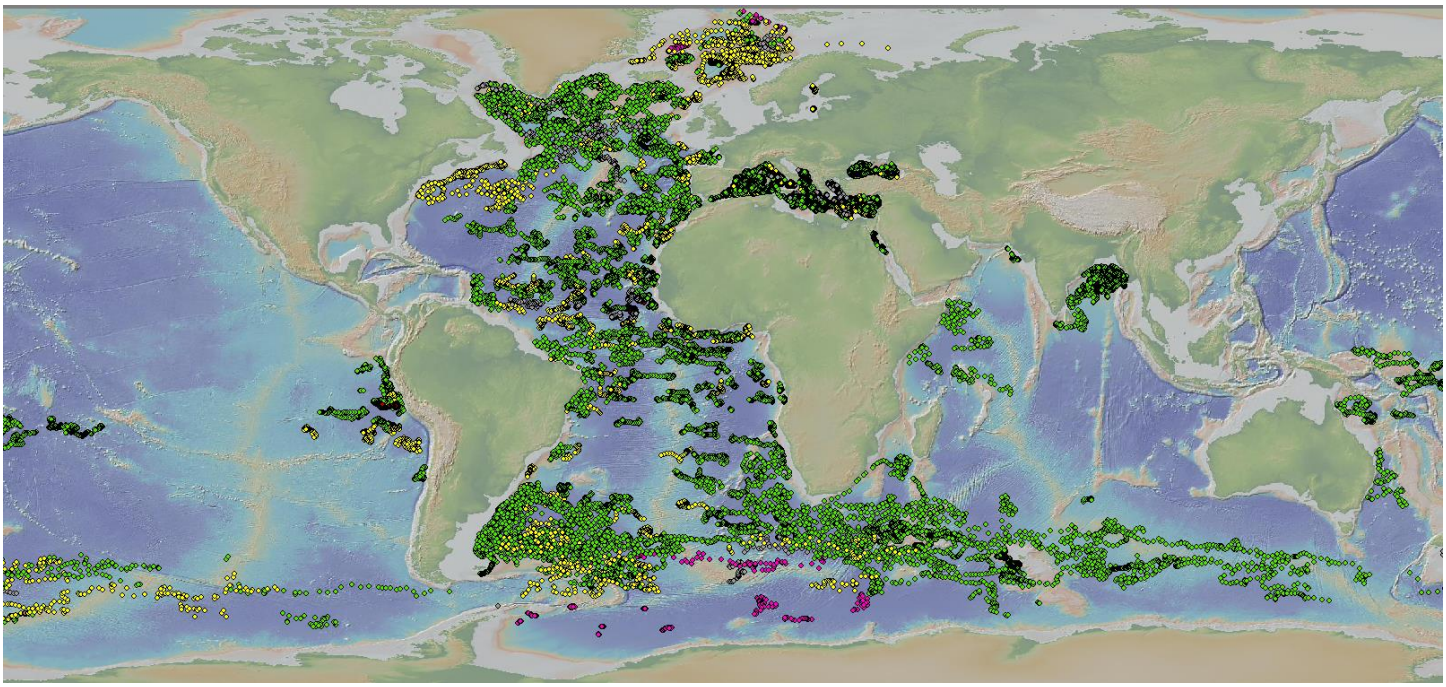


All floats managed by Coriolis DAC

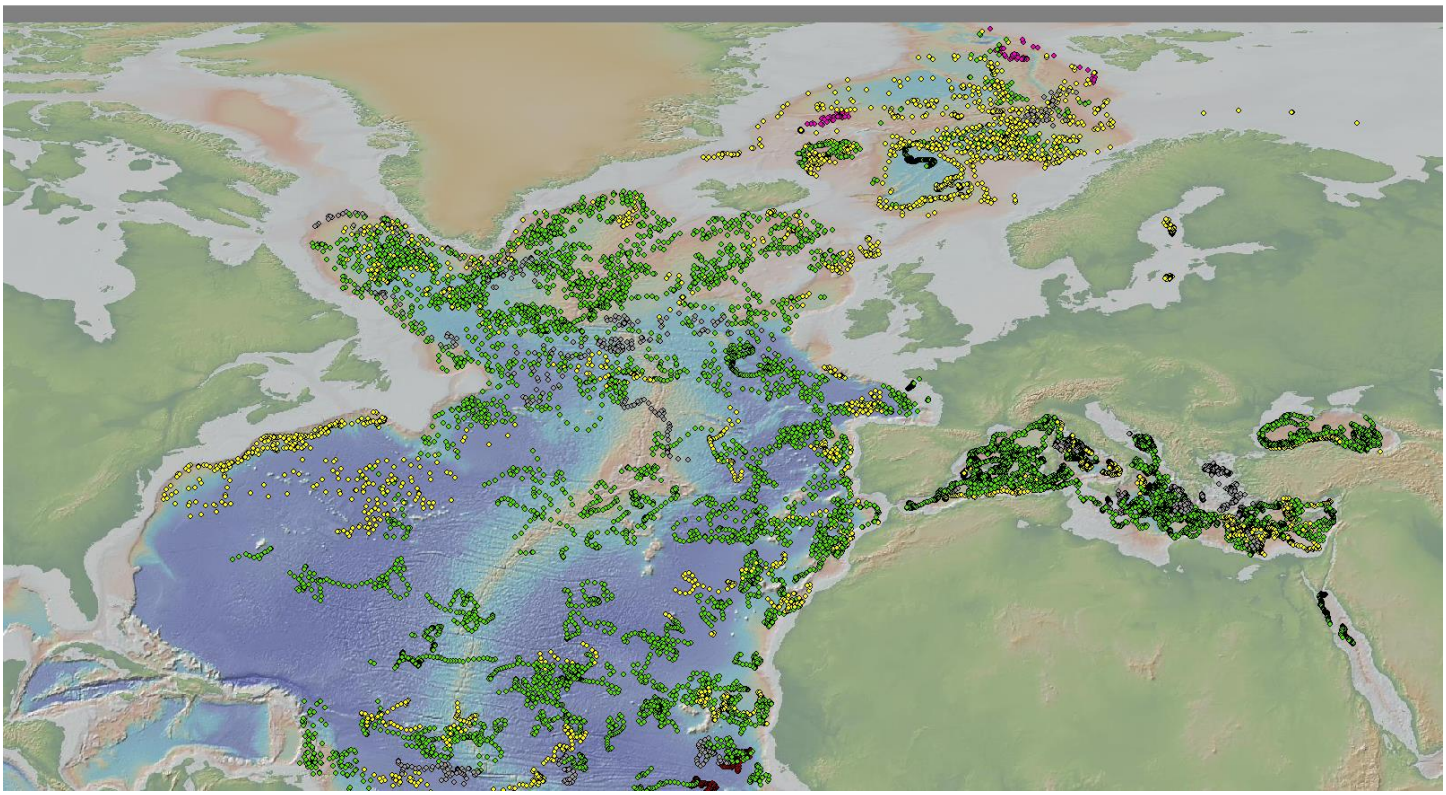
Coriolis DAC manages a total of 2 210 floats with 116 versions, from 6 families.

Coriolis DAC, all floats			
Float family	nb versions	nb floats	nb core profile
APEX	58	829	90 521
METOCEAN	1	1	52
NAVIS	1	3	488
NEMO	8	163	8 911
NOVA	3	52	2 721
PROVOR	45	1 162	122 942
Total	**116**	**2 210**	**225 635**

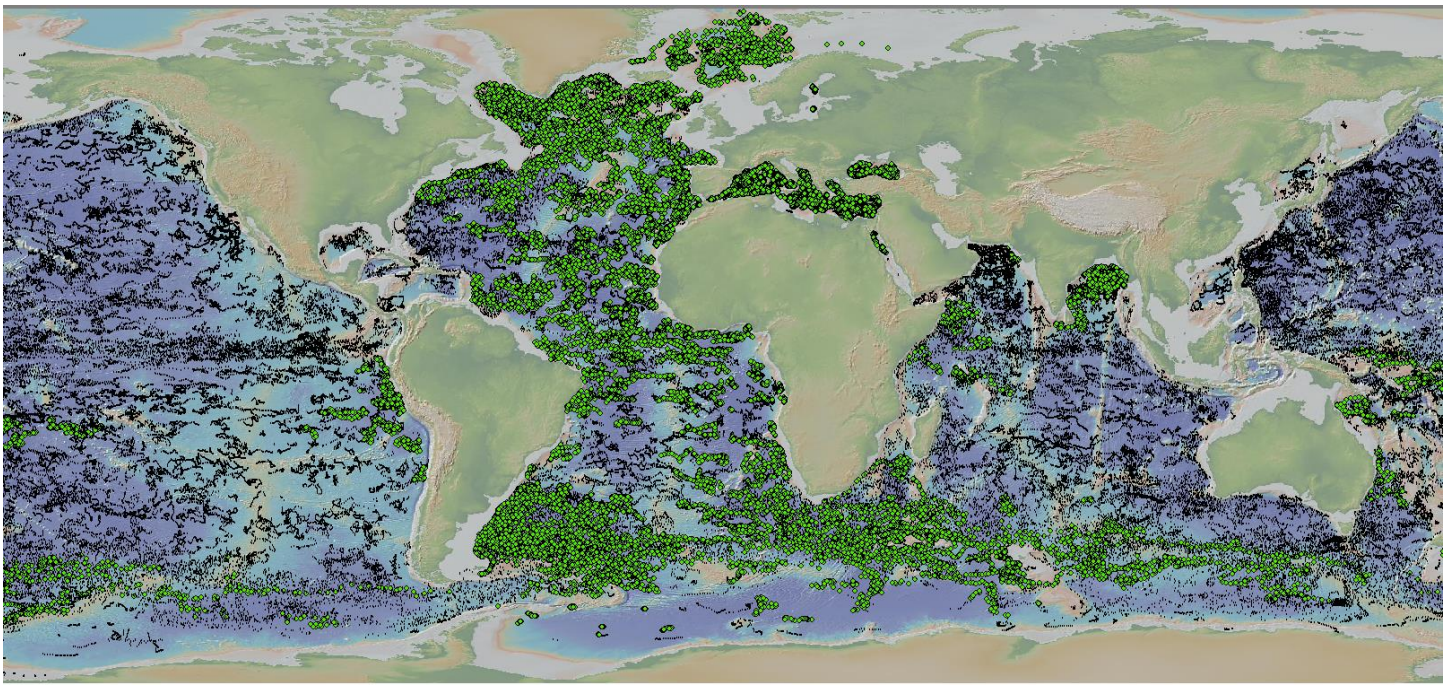




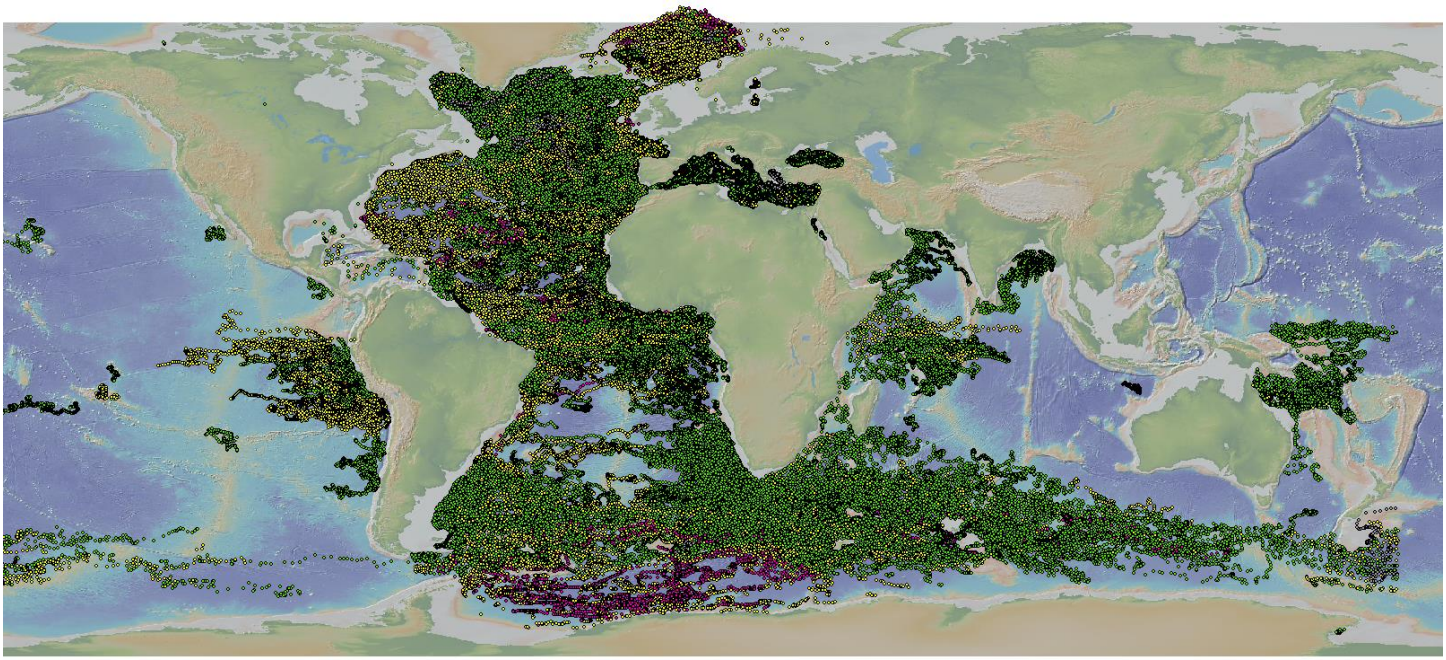
Map of the 29 683 profile files from 740 active floats decoded by Coriolis DAC this current year
Apex Navis Nemo Nova Provor



Map of active floats managed by Coriolis this current year, zoom on north Atlantic area



Map of the profiles from active floats decoded by Coriolis DAC this current year, among the other DAC's profiles (Coriolis: green, other DACs: grey)



Map of the 225 635 core-Argo profile files from 2210 floats managed by Coriolis DAC
Apex Navis Nemo Nova Provor

Transition to Argo NetCDF format 3.1

Provor floats

In 2015, most Provor Argo float files were reprocessed into Argo NetCDF version 3.1.

In 2016, the remaining delayed mode files were moved to V3.1.

Apex floats

In 2016, 10 versions of Apex floats were reprocessed into Argo NetCDF version 3.1.

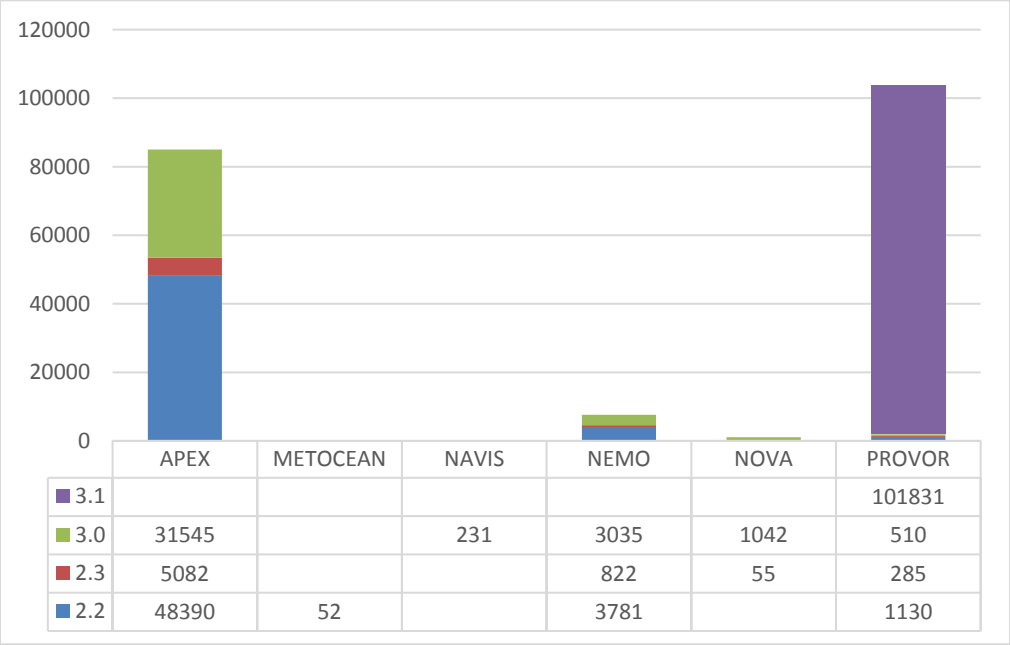
The delayed mode files from these 10 versions are still in version 3.0. They will probably be entirely reprocessed by the delayed mode operators, as the reprocessed real-time profiles have a higher quality than the former files.

The rest of 14 versions of still active Apex floats will be gradually converted (probably in 2016-2017).

The 35 versions no more active will be converted to V3.1.

Nemo, Nova, Navis floats

The schedule for V3.1 transition for these files is not yet defined.



	APEX	METOCEAN	NAVIS	NEMO	NOVA	PROVOR
3.1						101831
3.0	31545		231	3035	1042	510
2.3	5082			822	55	285
2.2	48390	52		3781		1130

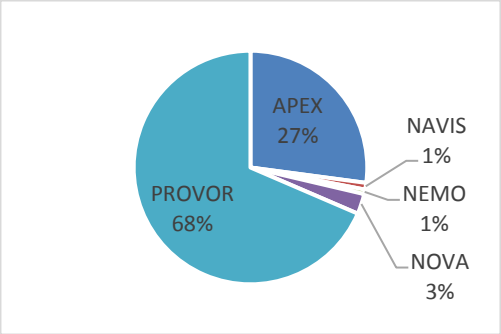
Number of files from Coriolis DAC, per file format

Bio-geo-chemical sensors on Coriolis floats

The data processing chain based on Matlab to manage data and metadata from Provor-Remocean floats is continuously improved. These are advanced types of floats performing bio-geo-chemical measurements.

Coriolis DAC provides data for 321 bio-Argo floats from 5 families and 46 instrument versions. They performed 38 376 cycles.

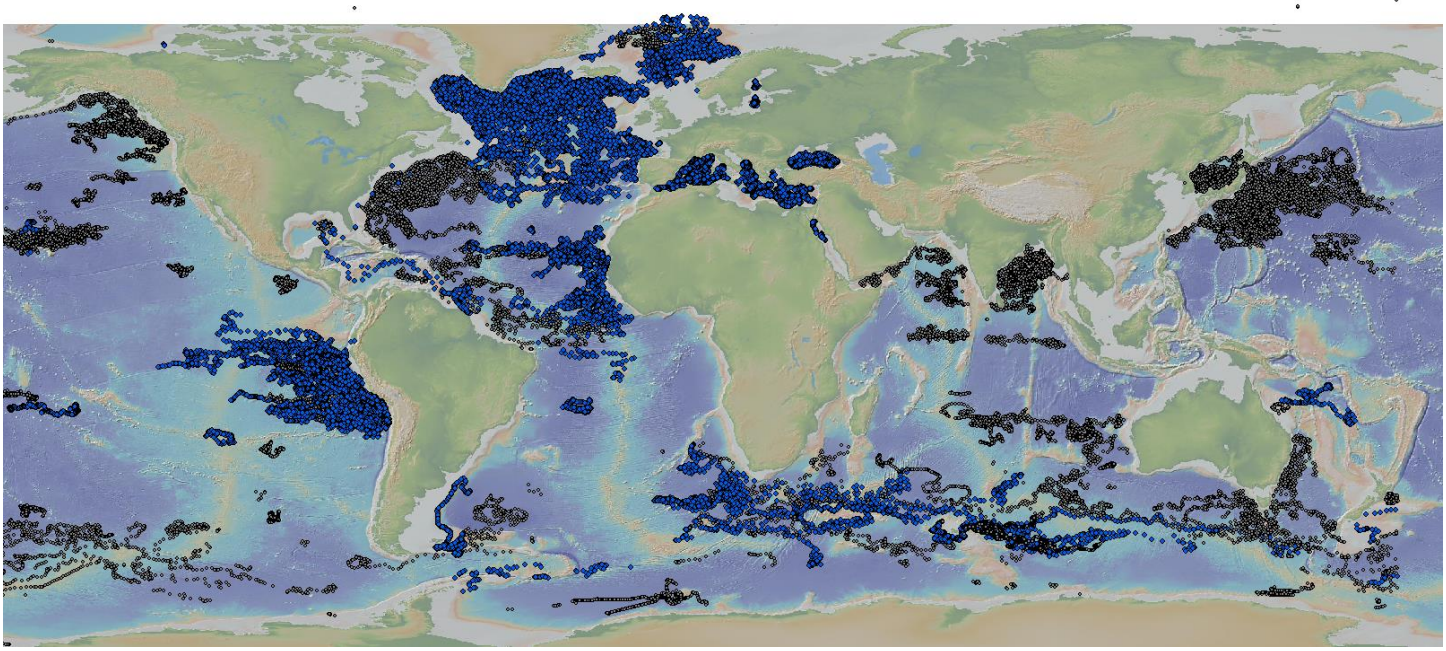
Bio-Argo floats processed by Coriolis DAC			
Familly	nb versions	nb floats	nb cycles
APEX	21	87	10 243
NAVIS	1	3	394
NEMO	1	2	297
NOVA	2	9	279
PROVOR	21	220	27 163
Total	46	321	38 376



General characteristics

- Iridium rudics bi-directional communication or Argos
- Six sensors are fitted on the floats
- AANDERAA_OPTODE_4330 Aandera oxygen sensor
- C_ROVER Wetlabs transmissiometer
- ECO_PUCK Wetlabs fluorometer turbidity, scattering
- SATLANTIC_OCR504 Satlantic Irradiance sensor
- SBE41CP Seabird CTD sensor
- SUNA_V2 Satlantic nitrate sensor

83 parameters managed : core-argo, b-argo, i-argo parameters
These parameter include chlorophyll, turbidity, CDOM, back-scattering, UV, nitrate, bisulfide, pH, radiance, irradiance, PAR



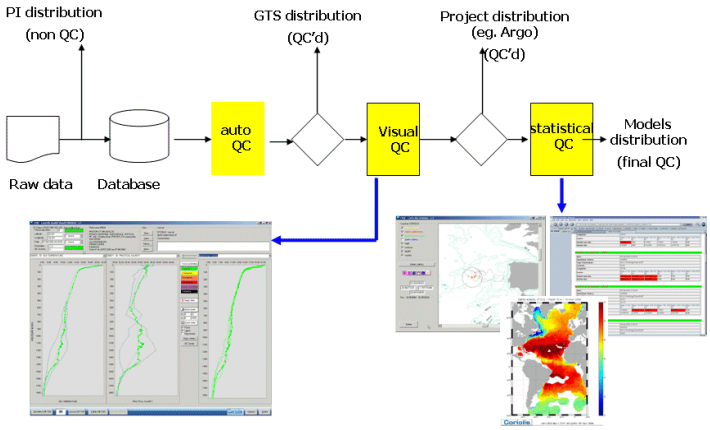
Map of the 321 bio-Argo floats managed by Coriolis DAC (grey dots: the others DACs bio-Argo floats). They measure parameters such as oxygen, chlorophyll, turbidity, CDOM, back-scattering, UV, nitrate, bisulfide, pH, radiance, irradiance, PAR.

Data issued to GTS

All profiles processed by Coriolis are distributed on the GTS by way of Meteo-France. This operation is automatically performed. After applying the automatic Argo QC procedure, the Argo profiles are inserted on the GTS every 2 hours. Argo profiles are inserted on the GTS 365 days per year, 24 hours a day.

The profile files are sent as TESAC and BUFR messages by way of Meteo-France. We received information from Anh Tran that a fair amount of Coriolis BUFR messages did not reach American GTS nodes. Meteo-France accept Coriolis as valid BUFR messages and circulate them on neighbour nodes. Some neighbour nodes may reject some of Coriolis BUFR message. The situation still need a clarification.

Once a day, floats data that are less than 21 days old are checked in an objective analysis (ISAS) that triggers alert and visual inspection for suspicious observations.

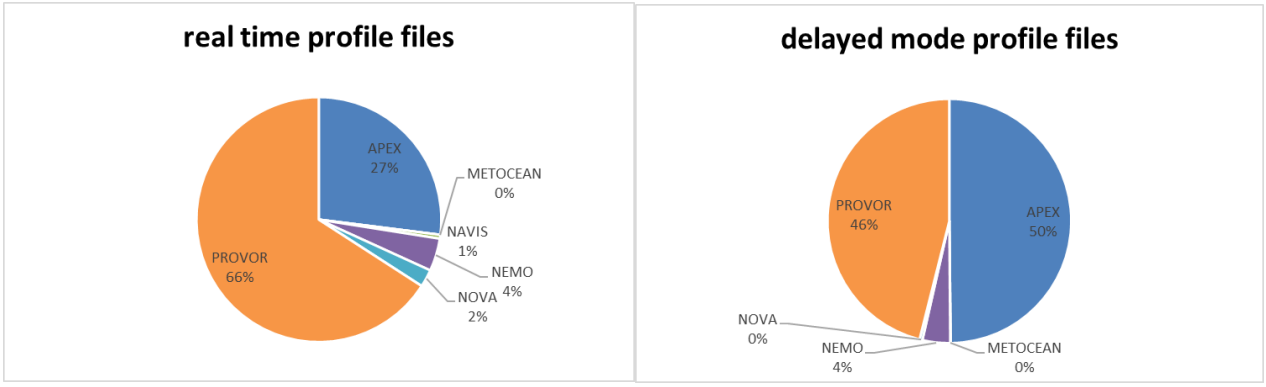


CORIOLIS DAC: Argo data flow

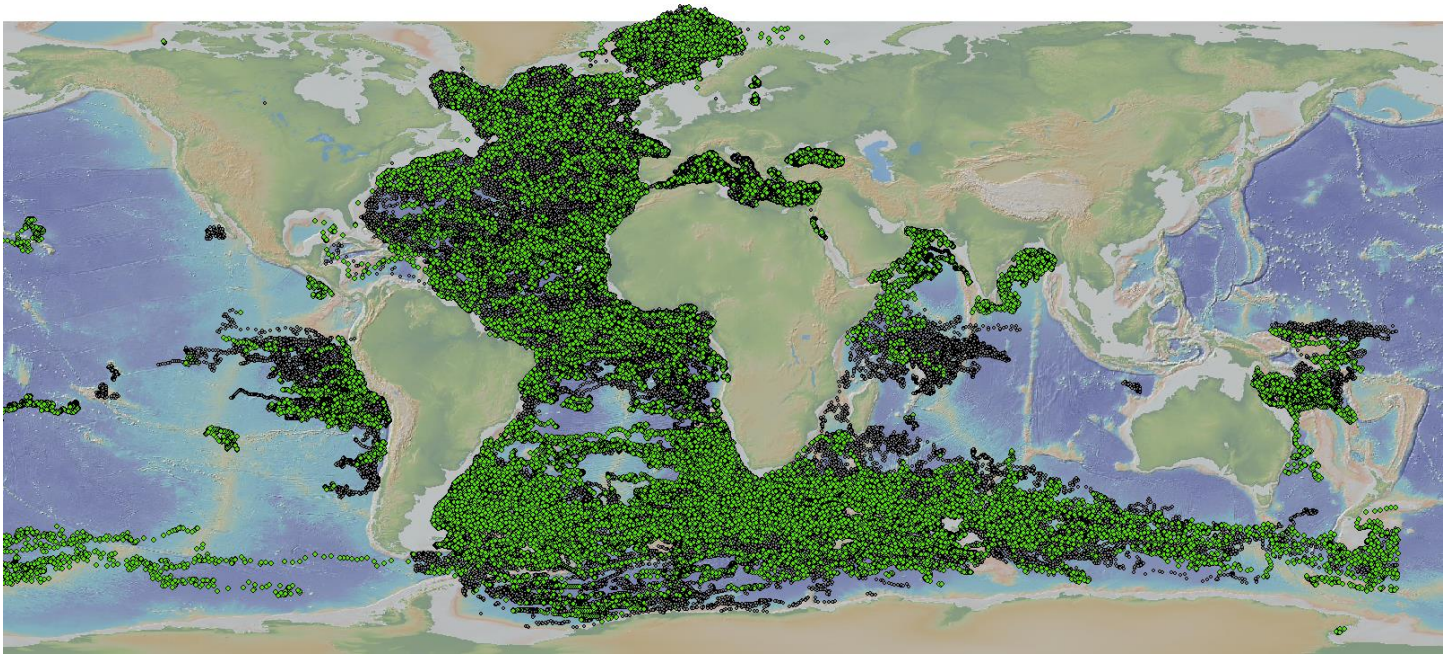
Data issued to GDACs after real-time QC

All meta-data, profiles, trajectory and technical data files are sent to Coriolis and US-GODAE GDACs. This distribution is automated.

All Coriolis floats, number of profile files on GDAC				
Family	nb floats	nb profile	RT profiles	DM profiles
APEX	829	90 533	25 918	64 615
METOCEAN	1	52	-	52
NAVIS	3	488	488	
NEMO	163	8 911	4 141	4 770
NOVA	52	2 727	2 233	494
PROVOR	1 162	122 974	63 264	59 710
Total	**2 210**	**225 685**	**96 044**	**129 641**



Distribution of Coriolis DAC real-time – delayed mode profile files



Map of real-time profiles and delayed mode profiles
Real time: green dots, delayed mode: grey dots

Data issued for delayed mode QC

Delayed mode profiles

All profile files are sent to PIs for delayed QC. Most of the Atlantic data handled by Coriolis are checked within the European project Euro-Argo.

Preparation of Argo delayed mode trajectories

The delayed mode trajectories derived from Andro trajectory product were produced in version 3.0. Their conversion to V3.1 trajectory format will be performed when the work underway on the trajectory file checker is completed (http://dx.doi.org/10.13155/46120) .

The 1442 delayed mode trajectories files are available from:

- ftp://ftp.ifremer.fr/ifremer/argo/etc/coriolis-custom/argo-andro-data/data/dac/coriolis/

The Andro trajectory TRAJ3 files are available for most of the DACs. Each DAC may decide to use these files to provide delayed mode trajectory on GDAC.

Coriolis DAC will use these files as its delayed mode trajectories for old floats versions.

Delayed mode data sent to GDACs

An Argo delayed mode profile contains a calibrated salinity profile (psal_adjusted parameter).

- A total of **46 035 new or updated delayed mode profil**es from 501 floats were sent to GDACs this year.
- A total of **129 641 delayed mode profiles** where sent to GDACs since 2005.
  The number of delayed mode profiles increased by 8% this year.

Web pages

The web site of the French DAC is available at:

- http://www.coriolis.eu.org/Observing-the-Ocean/ARGO

This web page describes all Argo floats:

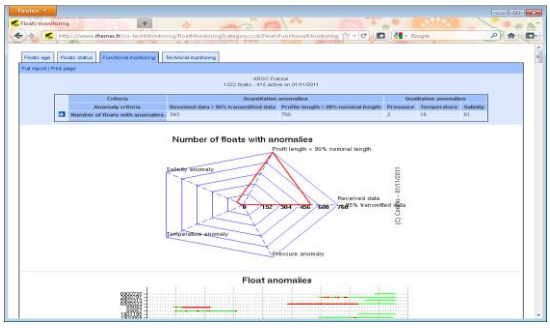
- http://www.ifremer.fr/co-argoFloats/
    - Individual float description and status (meta-data, geographic map, graphics : section, overlaid, waterfall, t/s charts)
    - Individual float data (profiles, trajectories)
    - FTP access
    - Data selection tool
    - Global geographic maps, GoogleEarth maps
    - Weekly North Atlantic analyses (combines Argo data and other measurements from xbt, ctd, moorings, buoys)

This web page describes all Argo floats interoperability services from Coriolis:

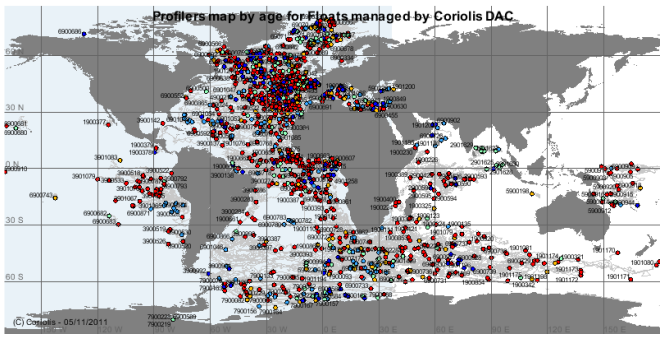
- http://www.coriolis.eu.org/Data-Products/Data-Delivery/Argo-floats-interoperability-services2
    - Display an individual float's data and metadata
    - Display an individual float's data and metadata in XML format
    - Display all Argo floats
    - Display a group of floats
    - Argo profiles and trajectories data selection
    - All individual float's metadata, profile data, trajectory data and technical data
    - Argo profiles data on OpenDAP, OGC-WCS and http
    - Argo data through Oceanotron data server
    - Argo profiles data through GCMD-DIF protocol
    - Argo data through RDF and OpenSearch protocols
    - Display Argo profiles and trajectories with GoogleEarth

Some pages of Coriolis web site are dedicated to technical monitoring:

- http://www.coriolis.eu.org/Data-Products/At-sea-monitoring

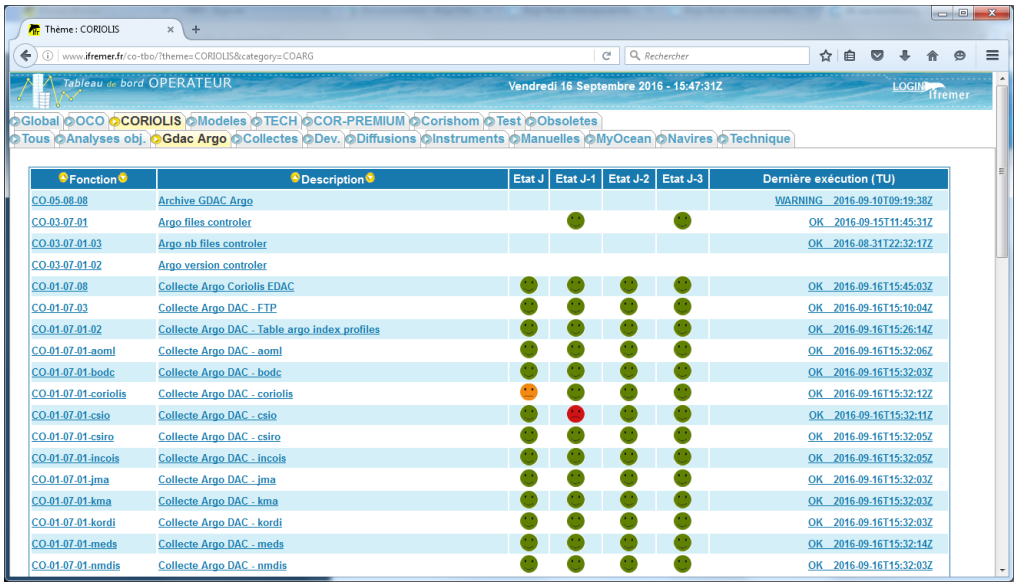


Example 1: technical monitoring of Argo-France floats



Example 2: age map of floats managed by Coriolis DAC.

Data centre activity monitoring: Coriolis operators perform an activity monitoring with an online dashboard.



Argo GDAC operations monitoring: every working day, an operator performs diagnostics and take actions on anomalies (red or orange smileys)

Statistics of Argo data usage (operational models, scientific applications, number of National Pis…)

Operational oceanography models; all floats data are distributed to:

- French model Mercator (global operational model)
- French model Previmer (regional operational model)
- French model Soap (navy operational model)
- EU Copernicus models (Foam, Topaz, Moon, Noos)
- EuroGoos projects

Argo projects: this year, Coriolis data centre performed float data management for **62 Argo scientific projects and 57 PIs (Principal Investigators).**

List of Coriolis scientific PIs and project names

Project name	nb floats
euro-argo	811
coriolis	468
bsh	148
goodhope	82
naos	75
argo italy	56
remocean	48
argomed	36
argo_spain	31
pirata	30

The top 10 scientific projects

The other scientific projects: gmmc, awi, argo-bsh, dap, ovide, eaims, sagar, argo greece, geovide, argo norway, amop, bwr, argo_fin, outpace, argo geomar, ticmoc, dekosim, ge moose, brazilian navy argo program, ifm, socib, gmmc_cnes, sri_lanka, aspex, argo bulgary, vsf, rrex, mafia, cnes, argo-italy, wen, lefe, shackelton, argo-poland, perseus, medargo_it, mooxy, bioargo-italy, track2010, cienperu, argo brazil, naos,pirata, plumrho leg 1, proteusmed, upsen, rrex asfar, shom, congas, physindien, euroargo, asa, flops

PI name	nb floats
birgit klein	111
christine coatanoan	86
pierre-marie poulain	66
sabrina speich	64
holger giese	57
virginie thierry	44
bernard bourles	33
pedro joaquin velez belchi	28
fabrizio d'ortenzio	27
herve claustre	26

The top 10 Principal Investigators (PI) in charge of floats

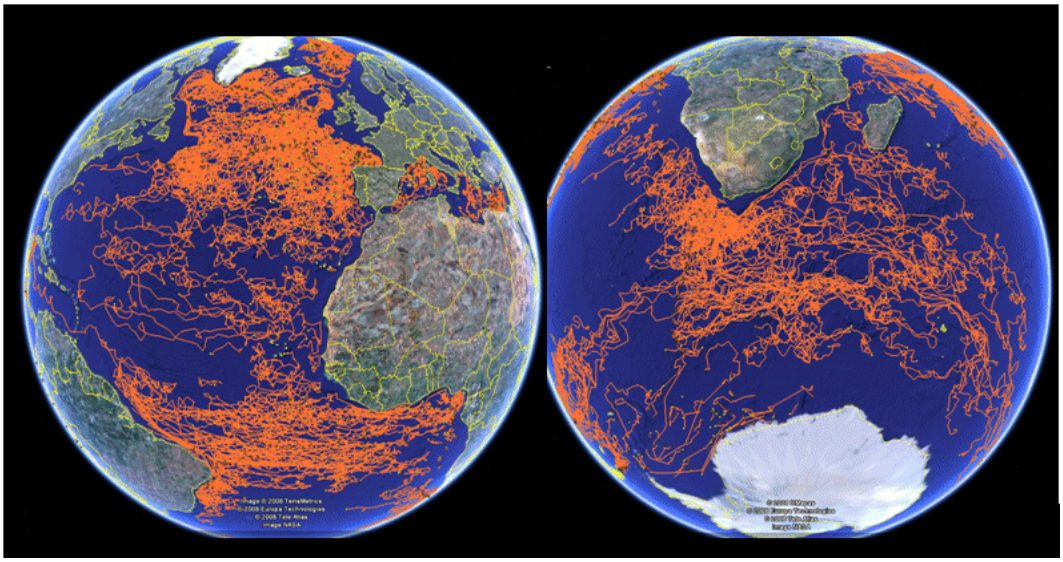
The other PIs : christophe maes, gerd rohardt, andreas sterl, sabrina speich et michel arhan, fabien durand, jose lluis pelegri, dimitris kassis, xavier andre, kjell arne mork, jean-baptiste sallee, rena czeschel, laurent coppola, cecile cabanes, sophie cravatte, luis felipe silva santos, violeta slabakova, serge le reste, bettina fach, tero purokoski, christine provost, alban lazar, stephanie louazel, arne kortzinger, stephane blain, thierry moutin, detlef quadfasel, w. walczowski, bert rudels, tobias ramalho dos santos ferreira, vincent echevin, vincent dutreuil et serge le reste, pascal conan, katrin latarius, velez belchi pedro, frederic vivier, alain serpette, sorin balan, elodie martinez, chistophe maes, pascual ananda, hubert loisel, waldemar walczowski, jordi font, anja schneehorst, gerard eldin, nathanaele lebreton, juliet hermes.

Products generated from Argo data …

Sub-surface currents ANDRO Atlas

Based on Argo trajectory data, Michel Ollitrault and the Ifremer team are regularly improving the “Andro” atlas of deep ocean currents. The ANDRO project provides a world sub-surface displacement data set based on Argo floats data. The description of each processing step applied on float data can be found in:

- http://www.ifremer.fr/lpo/files/andro/ANDRO_JAOT_2013.pdf
- See also : http://wwz.ifremer.fr/lpo/Produits/ANDRO



Argo trajectories from Coriolis DAC are carefully scrutinized to produce the “Andro” atlas of deep ocean currents.

Delayed Mode QC

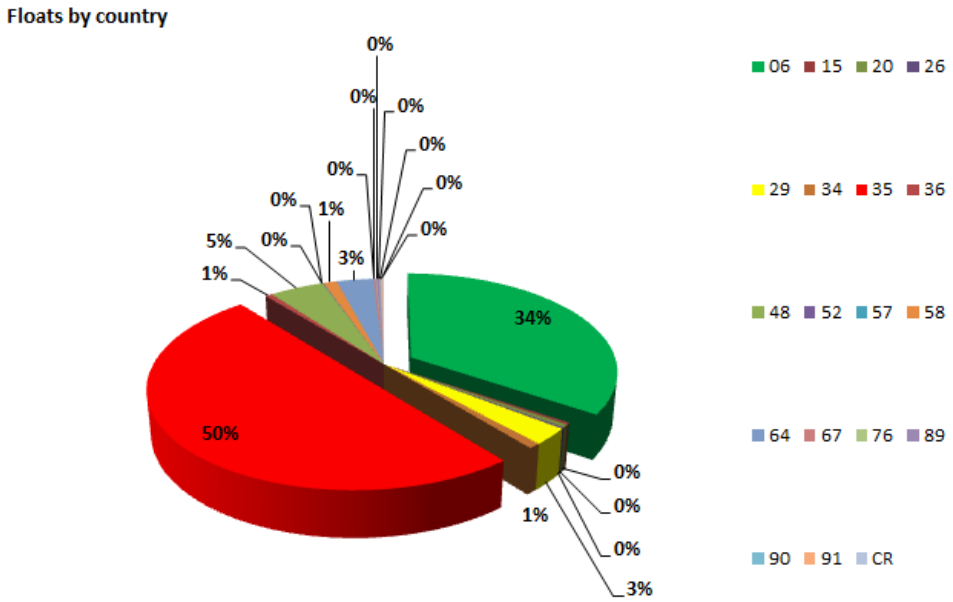
(Please report on the progress made towards providing delayed mode Argo data, how it's organized and the difficulties encountered and estimate when you expect to be pre-operational .)

At the Coriolis data centre, we process the delayed mode quality control following four steps. Before running the OW method, we check carefully the metadata files, the pressure offset, the quality control done in real time and we compare with neighbor profiles to check if a drift or offset could be easily detected. As each year, we have worked on this way with PIs to strengthen the delayed mode quality control.

Some floats have been deployed from some projects, meaning a lot of PIs and a lot of time for explaining the DM procedure to all of them. A few PIs are totally able to work on DMQC following the four steps but this is not the case for most of them. Since the unavailability of the PIs leads to work by intermittence and then extend the period of work on the floats, we did the work with a private organism (Glazeo) to improve the realization of the DMQC, exchanging only with the PIs to validate results and discuss about physical oceanography in studied area. Working in this way, we largely improve the amount of delayed mode profiles.

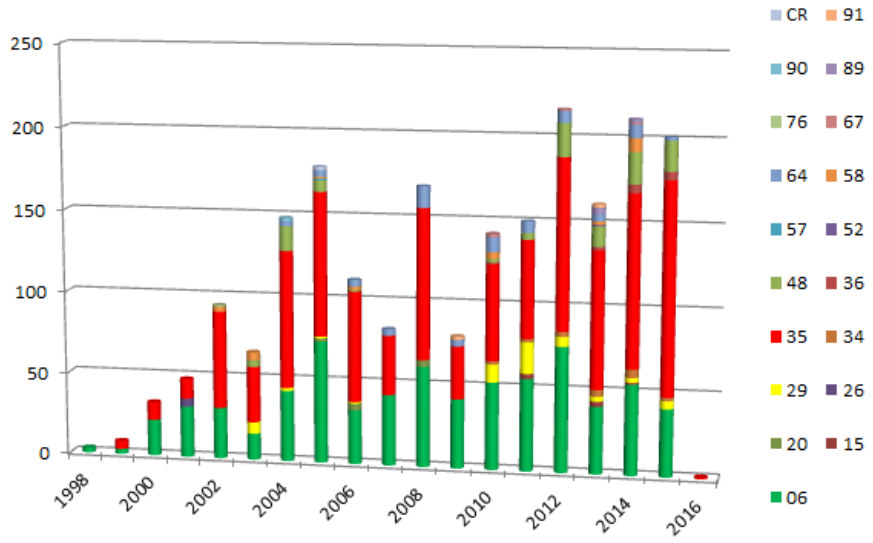
For a few projects, there are still no identified operators to do DMQC, for instance the first run has been done by students which have now left institutes or are not available to carry on with this work. We have made a lot of progress with BSH (Birgit Klein) taking into account also floats from other German institutes and OGS (Giulio Notarstefano) for the MedSea.

Some DM files have been updated to format version 3.1 taking into account a new decoder (matlab) developed at Coriolis. This work has been done for some Provor and Apex, few files need to be manually updated.



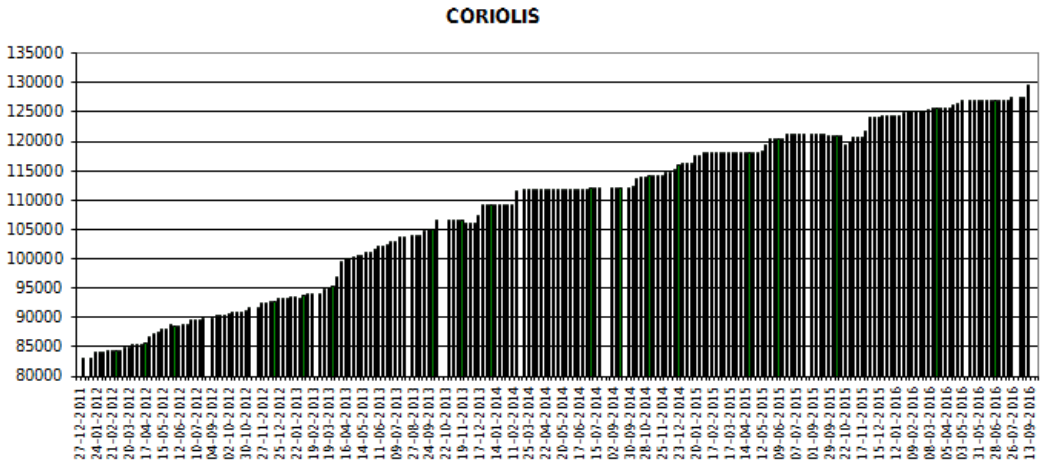
Percentage of floats by country in the Coriolis DAC.

Codes for the countries: 06 : Germany - 15 : Bulgaria - 20 : Chili – 26 : Denmark – 29 : Spain – 34 : Finland - 35 : France – 36 : Greece - 48 : Italy – 52 : Lebanon - 57 : Mexico - 58 : Norway – 64 : Netherlands – 67 : Poland – 76 : China – 89: Turkey - 90 : Russia – 91 : - South Africa - CR : Costa Rica

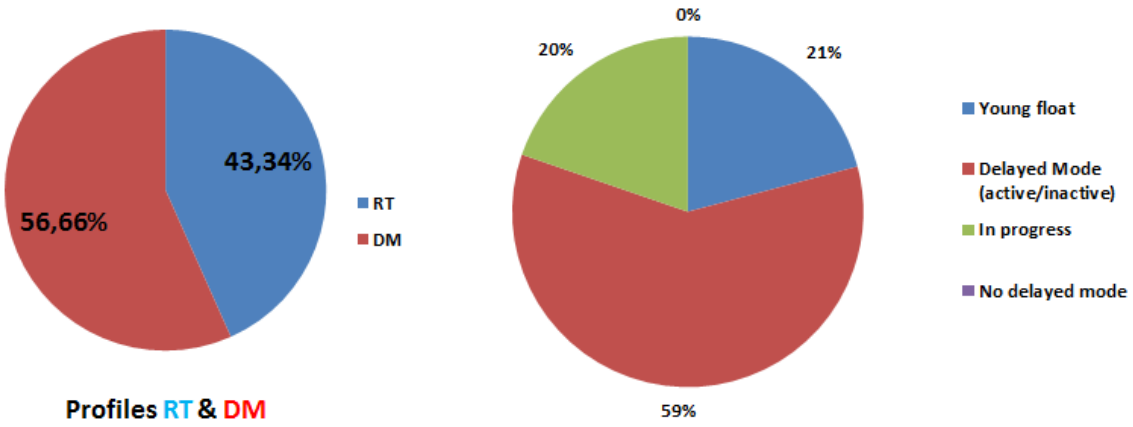


Number of floats by country and by launch's year in the Coriolis DAC

During the last year (from October 2015 to September 2016), 10371 new delayed mode profiles where produced and validated by PIs. A total of 129641 delayed mode profiles where produced and validated since 2005.

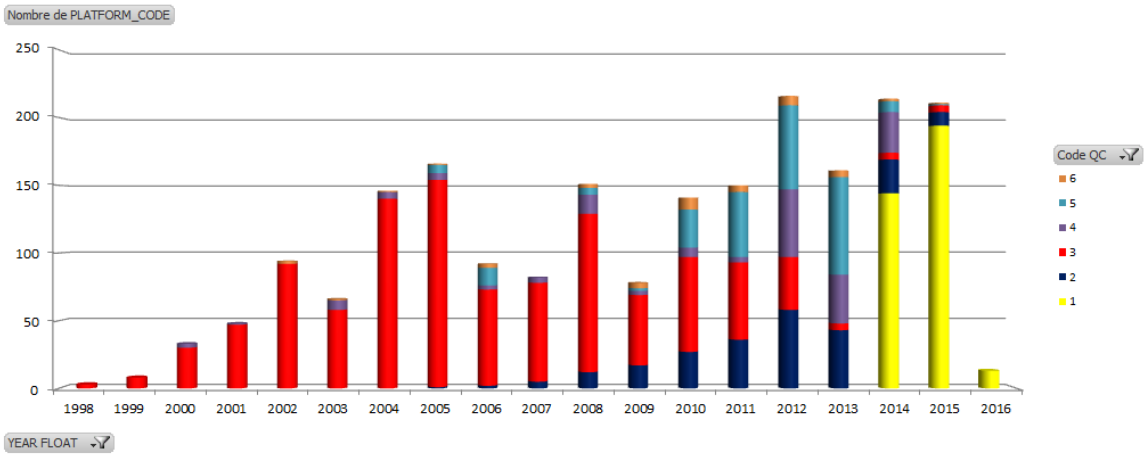


Evolution of the DM profiles' submission versus dates



Status of the floats processed by Coriolis DAC.
Left: in terms of profile percent and right: in terms of float percent (DM : delayed mode – RT : real time).

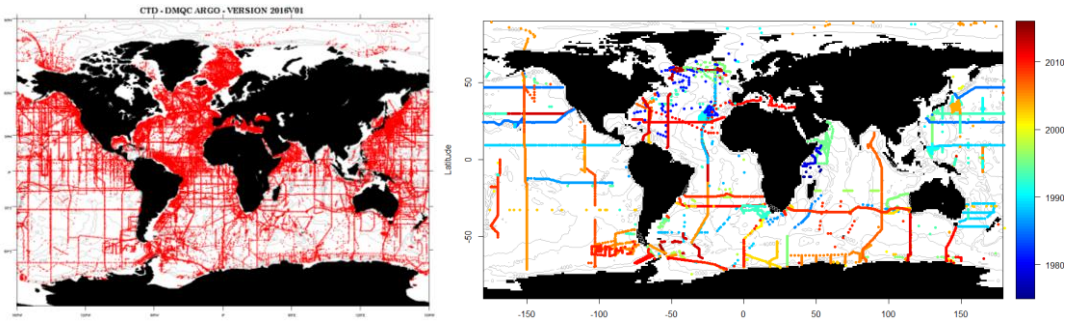
The status of the quality control done on the Coriolis floats is presented in the following plot. For the two last years (2015-2016), most of the floats are still too young (code 1) to be performed in delayed mode. For the years 2012-2013-2014, we are working on the DMQC of some floats, which should be available for the end of this year. The codes 2 and 3 show the delayed mode profiles for respectively active and dead floats.



Status of the quality control done on profiles sorted by launch's year, code 1: young float, code 2: active float, DM done, code 3 : dead float, DM done; code 4 : DM in progress, code 5 : waiting for DM, code 6 : problems with float.

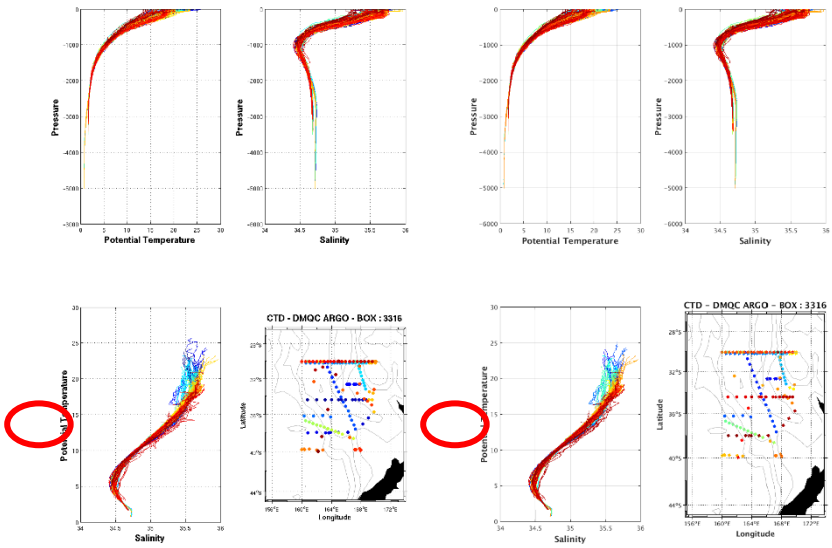
Reference database

The last version CTD_for_DMQC_2016V01 has been provided in September 2016. This version takes into account new CTD provided by the CCHDO API (following figure), CTD from scientists as well as feedbacks from users on quality of some profiles. Concerning the CCHDO API, all cruises have been imported but only 30% have been kept after duplicates check with data in Coriolis database.



Version 2016 V01 & New CTD datasets downloaded from the CCHDO API

The new version takes also into account best quality control on data (based on analysis of deep water). At this time, updates on boxes in the areas 1 & 3 have been corrected.



Example of updates - box 3316: left previous version, right; updated version.

This version is available on the ftp site in smaller tar balls, one by wmo box area (1-3-5-7): for instance, CTD_for_DMQC_2016V01_1.tar.gz for all boxes starting with wmo 1, then we will have 4 tar files. A new column has

been added QCLEVEL with information on the providers (CCH for CCHDO, OCL for US-NODC, COR for Coriolis and SPI for scientists PIs).

GDAC Functions

(If your centre operates a GDAC, report the progress made on the following tasks and if not yet complete, estimate when you expect them to be complete)

- National centres reporting to you
- Operations of the ftp server
- Operations of the www server
- Data synchronization
- Statistics of Argo data usage : Ftp and WWW access, characterization of users (countries, field of interest : operational models, scientific applications) …

National centres reporting to you

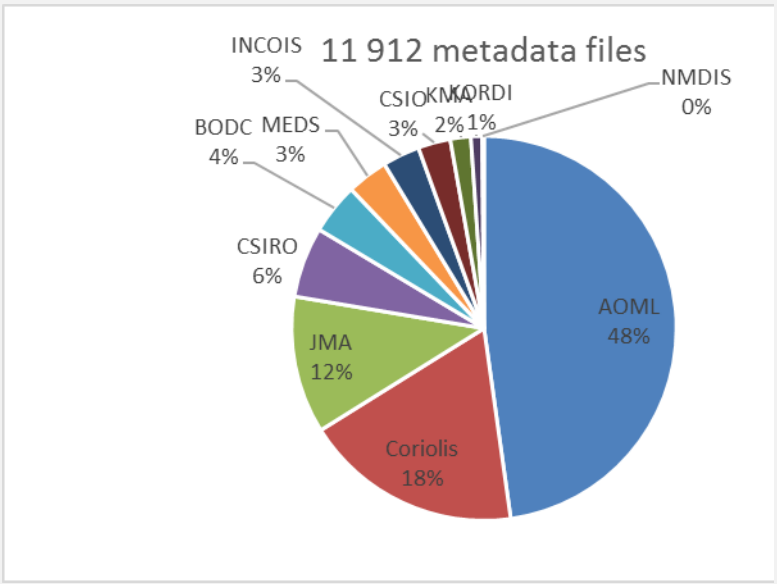
Currently, 11 national DACs submit regularly data to Coriolis GDAC.

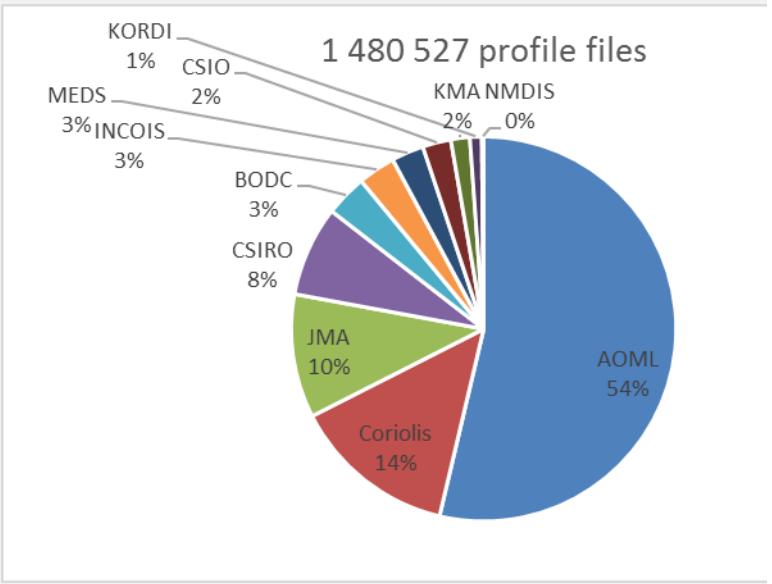
The additional GTS DAC contains all the vertical profiles from floats that are not managed by a national DAC. These data come from GTS and GTSPP projects. The GTS profiles are quality controlled by the French DAC (Coriolis).

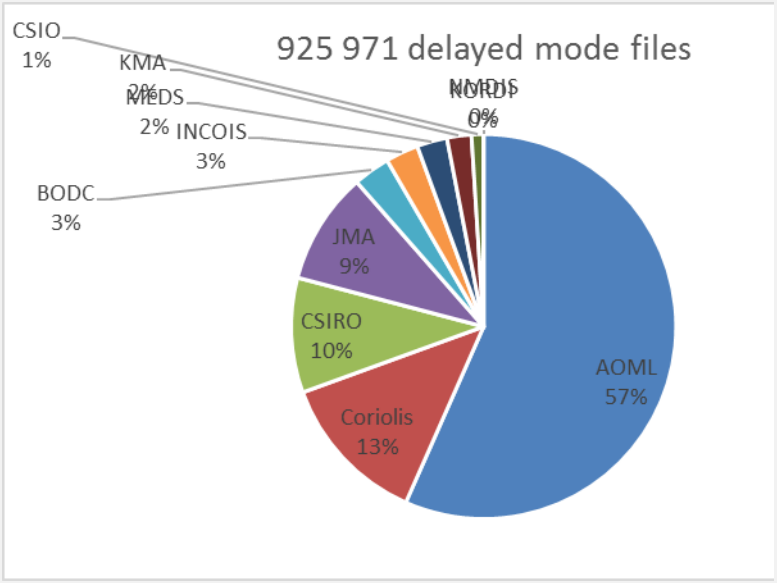
On September 16th, the following files were available from the GDAC FTP site.

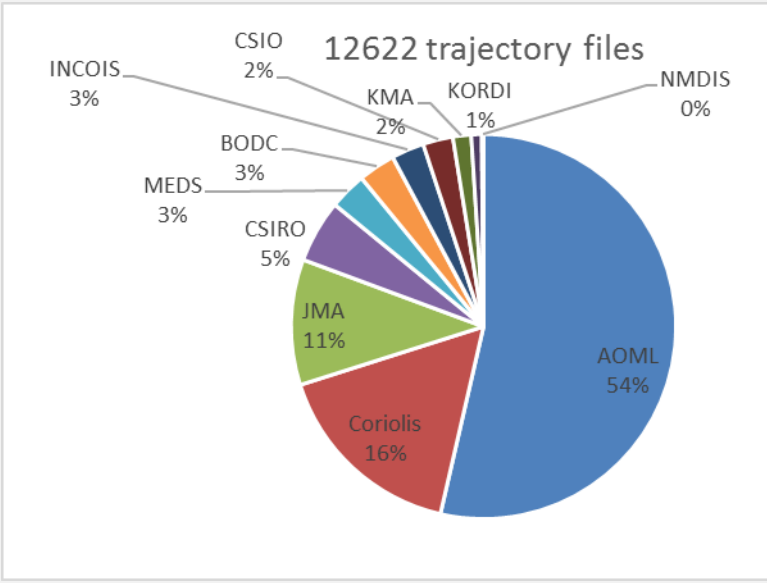
DAC	metadata files 2016	increase from 2015	profile files 2016	increase from 2015	delayed mode profile files 2016	increase from 2015	trajectory files 2016	increase from 2015
AOML	6 020	5%	877 797	11%	572 793	7%	7 226	7%
BODC	538	7%	57 307	8%	31 307	0%	420	0%
Coriolis	2 310	7%	226 052	14%	129 641	8%	2 223	7%
CSIO	344	6%	39 026	16%	10 221	1%	340	5%
CSIRO	748	9%	124 051	12%	97 631	48%	711	25%
INCOIS	394	6%	51 548	10%	27 819	3%	370	4%
JMA	1 454	3%	169 948	5%	95 532	0%	1 424	3%
KMA	217	9%	26 035	9%	20 786	14%	207	7%
KORDI	119	0%	16 300	2%	0		119	0%
MEDS	435	8%	44 327	5%	25 763	9%	421	7%
NMDIS	19	0%	2 460	2%	0		19	0%
Total	**12 598**	**5,76%**	**1 634 851**	**10,42%**	**1 011 493**	**9,24%**	**13 480**	**6,80%**

- The total number of NetCDF files on the GDAC/dac directory was 1 844 628.
- The size of GDAC/dac directory was 168 Go
- The size of the GDAC directory was 647 Go









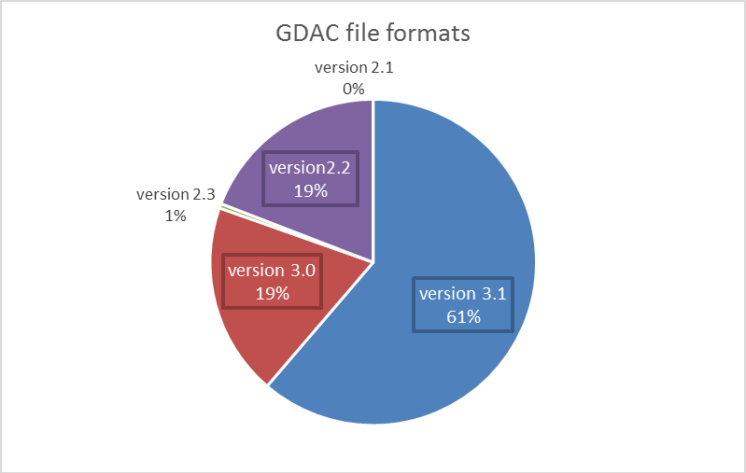
Number of files available on GDAC, September 2016

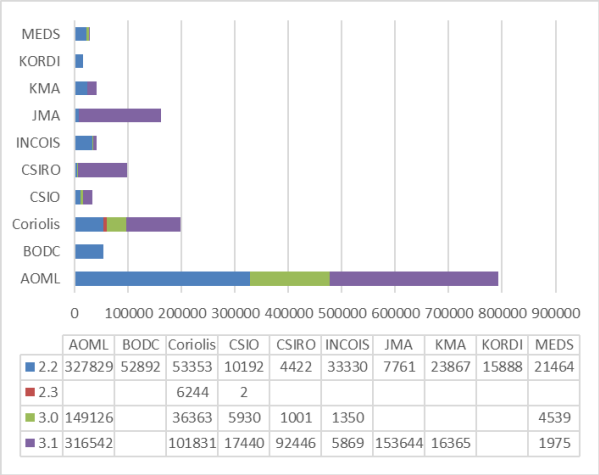
File format: transition to Argo NetCDF V3.1

The transition from Argo format 2.* and 3.0 toward format 3.1 is underway.

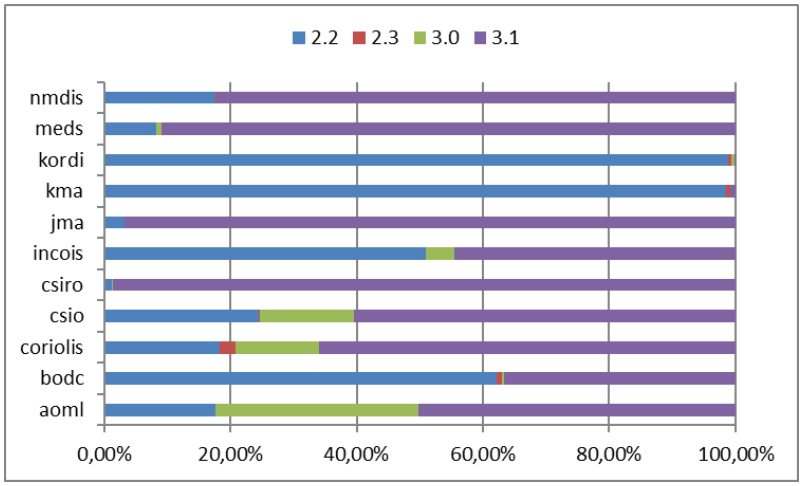
On September 2016, the number of files in format version 3.1 reached and passed a 60% threshold.

format version	nb files
3.1	1 130 689
3.0	353 116
2.3	8 369
2.2	353 155
2.1	20
Total	**1 845 349**





	AOML	BODC	Coriolis	CSIO	CSIRO	INCOIS	JMA	KMA	KORDI	MEDS
2.2	327829	52892	53353	10192	4422	33330	7761	23867	15888	21464
2.3			6244	2						
3.0	149126		36363	5930	1001	1350				4539
3.1	316542		101831	17440	92446	5869	153644	16365		1975



Number of files per DAC and format version

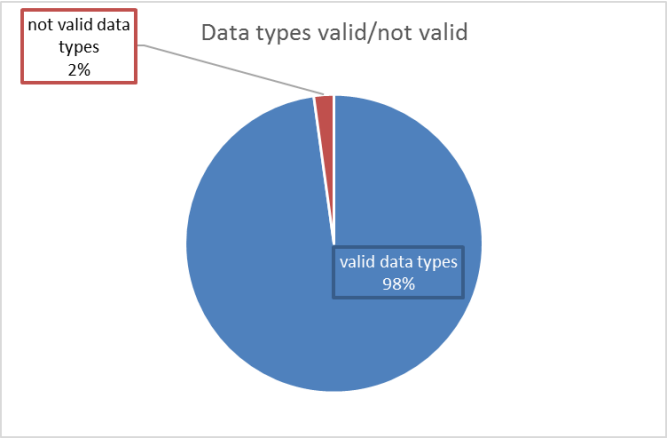
The files in format version V3.1 are much more homogeneous than their previous versions.

The controls applied by the format checker on V3.1 is much more exhaustive. The controlled vocabulary listed in the 27 reference tables is used for V3.1 format checks. A non-valid content is automatically rejected. Only valid V3.1 content appears on GDAC.

Example of valid content checked by the format checker on V3.1 files

There are 8 valid DATA_FORMAT variables listed in reference table 1 (there are 26 more tables…).
A survey on GDAC files shows that 40 000 files (2% of the total) do not have a valid DATA_FORMAT.
The V3.1 files are not affected by this kind of problem.

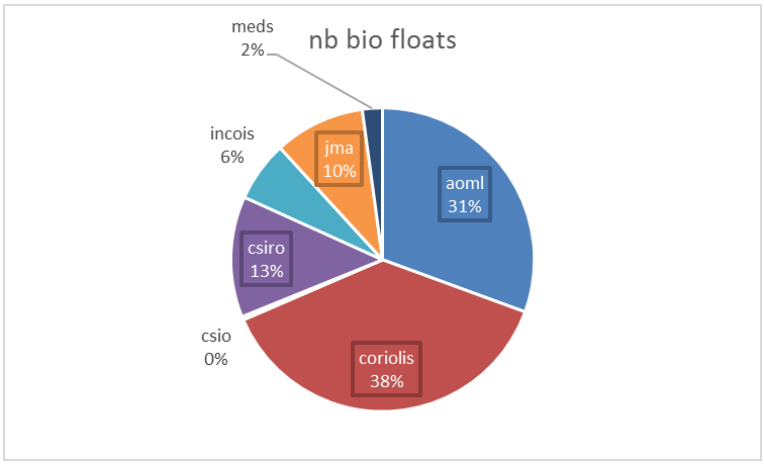
data_type	nb files	valid type
B-Argo trajectory	253	yes
B-Argo profile	79 271	yes
Argo trajectory	12 078	yes
Argo Trajectory	114	no
ARGO trajectory	1 287	no
Argo technical data	11 516	yes
ARGO technical data	239	no
Argo technical	510	no
Argo profile merged	79 736	yes
Argo profile	1 609 709	yes
ARGO profile	38 038	no
Argo meta-data	12 598	yes

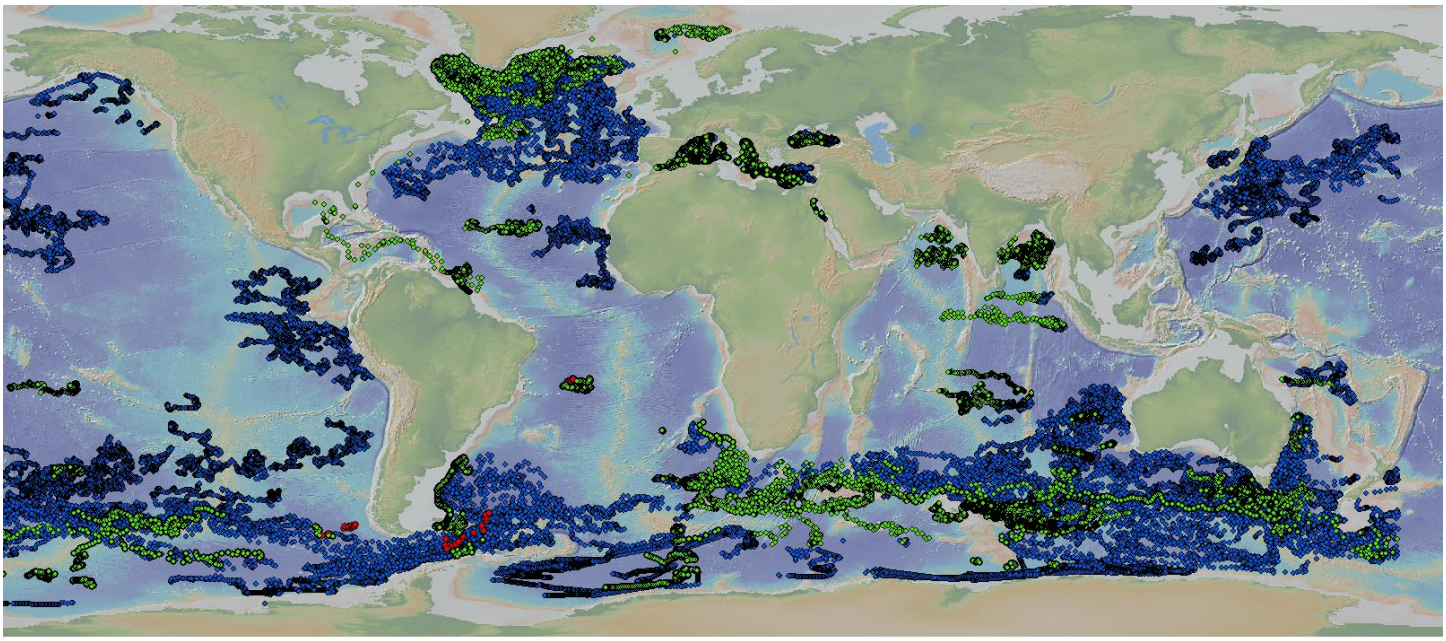


Bio-Argo floats

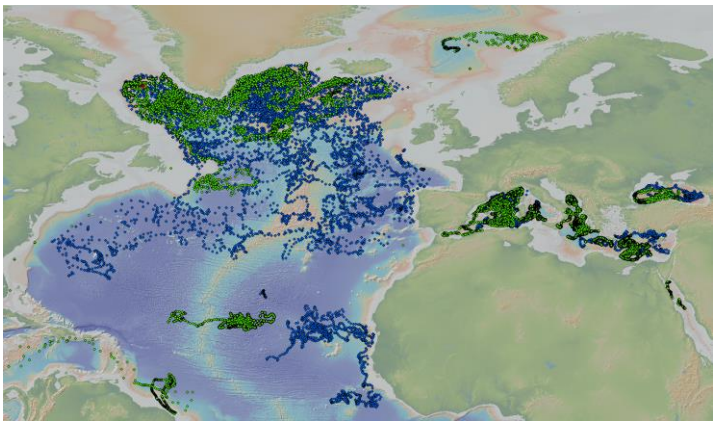
On September 20th, 559 floats reported bio parameters.

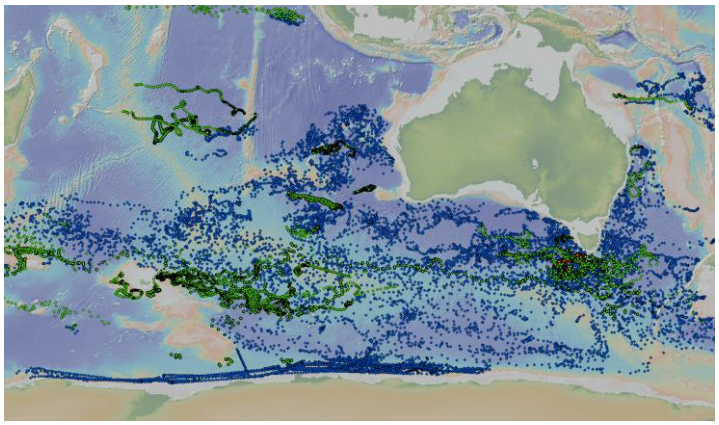
DAC	nb bio floats	nb bio files
aoml	171	22 324
coriolis	212	27 300
csio	2	371
csiro	72	18 635
incois	36	3 290
jma	54	7 151
meds	12	256
Total	**559**	**79 327**





Bio Argo observations, blue oxygen, green chlorophyll, red nitrate





Parameter	dac	nb floats	nb profiles
Oxygen	aoml	171	22324
Oxygen	coriolis	172	20130
Oxygen	csio	2	371
Oxygen	csiro	68	18631
Oxygen	incois	36	3290
Oxygen	jma	47	6345
Oxygen	meds	12	256
Nitrate	aoml	48	1495
Nitrate	coriolis	38	4374
Nitrate	csiro	3	774
Chlorophyll	aoml	43	1438
Chlorophyll	coriolis	101	15751
Chlorophyll	csiro	20	7900
Chlorophyll	incois	35	3104
Ph	aoml	43	1323
Ph	csiro	1	205
Irradiance	coriolis	100	15396
Irradiance	csiro	3	488
Backscattering	aoml	43	1438
Backscattering	coriolis	101	15751
Backscattering	csiro	20	7900
Backscattering	incois	35	3104
CDOM	aoml	12	198
CDOM	coriolis	97	15158
CDOM	csiro	4	1662

Main bio-Argo parameters received from DACs

Operations of the ftp server

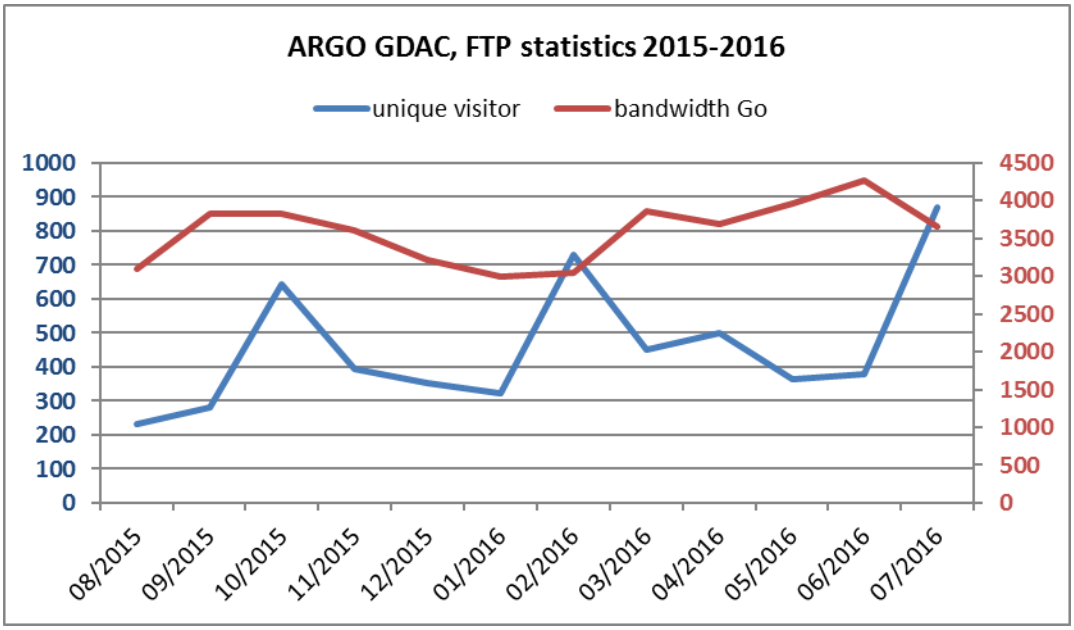
- Meta-data, profile, trajectory and technical data files are automatically collected from the national DACs ;
- Index files of meta-data, profile and trajectory are daily updated ;

- GDAC ftp address: ftp://ftp.ifremer.fr/ifremer/argo

Statistics on the Argo GDAC FTP server: ftp://ftp.ifremer.fr/ifremer/argo

There is a monthly average of 321 unique visitors, performing 4229 sessions and downloading 3 To of data files.

ARGO GDAC FTP statistics				
month	unique visitor	number of visits	hits	bandwidth Go
08/2015	232	3 572	4 157 650	3095,86
09/2015	280	4 103	4 876 859	3826,07
10/2015	643	4 835	4 967 519	3829,28
11/2015	393	4 198	4 736 037	3613
12/2015	351	4 525	2 060 947	3216
01/2016	321	4 229	4 609 609	2988
02/2016	730	4 692	3 133 640	3038
03/2016	450	3 104	11 610 883	3853
04/2016	499	3 781	6 255 583	3684
05/2016	363	4 028	4 989 997	3971
06/2016	380	4 231	4 774 866	4273
07/2016	868	4 697	2 787 770	3656
Average	**459**	**4 166**	**4 913 447**	**3 587**

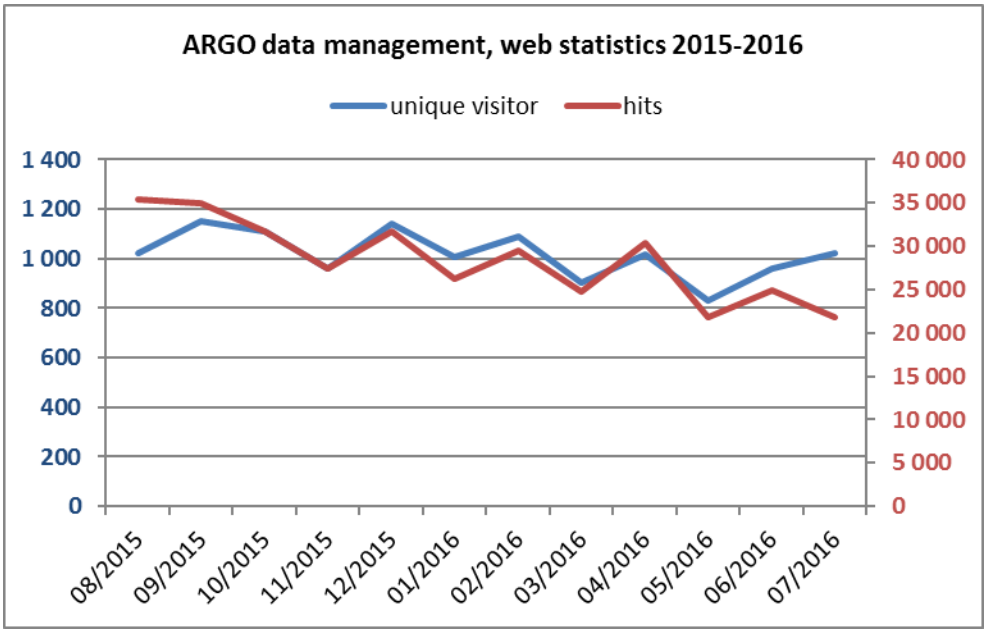


Statistics on the Argo data management web site: http://www.argodatamgt.org

There is a monthly average of 1142 unique visitors, performing 1941 visits and 31 653 hits.

The graphics shows a slightly increasing number of unique visitors.

ARGO GDAC web statistics					
month	unique visi	visits	pages	hits	bandwidth
09/2015	1 023	1 826	4 355	35 396	1,36
10/2015	1 152	1 874	4 970	34 967	1,40
11/2015	1 109	1 781	4 720	31 696	1,49
12/2015	960	1 639	3 916	27 460	2,31
01/2016	1 142	1 941	6 217	31 653	1,74
02/2016	1 006	1 760	4 090	26 253	2,60
03/2016	1 091	1 811	4 418	29 451	1,26
04/2016	903	1 445	3 703	24 696	0,83
05/2016	1 014	1 744	4 829	30 432	0,89
06/2016	831	1 326	3 246	21 740	0,77
07/2016	958	1 565	4 836	24 893	0,93
08/2016	1 023	1 738	3 993	21 817	0,98
Average	**1 018**	**1 704**	**4 441**	**28 371**	**1,38**



Data synchronization

The synchronization with US-Godae server is performed once a day at 01:55Z.

The synchronization dashboard in August 2016: the daily synchronization time takes on average 100 minutes.

The above dashboard lists a series of synchronisation incidents that occurred in August 2016: the ftp connection between the Coriolis and US GDAC failed 7 times: August 4th , 6th, 11th , 20th , 21st , 23rd and 27th .

FTP server monitoring

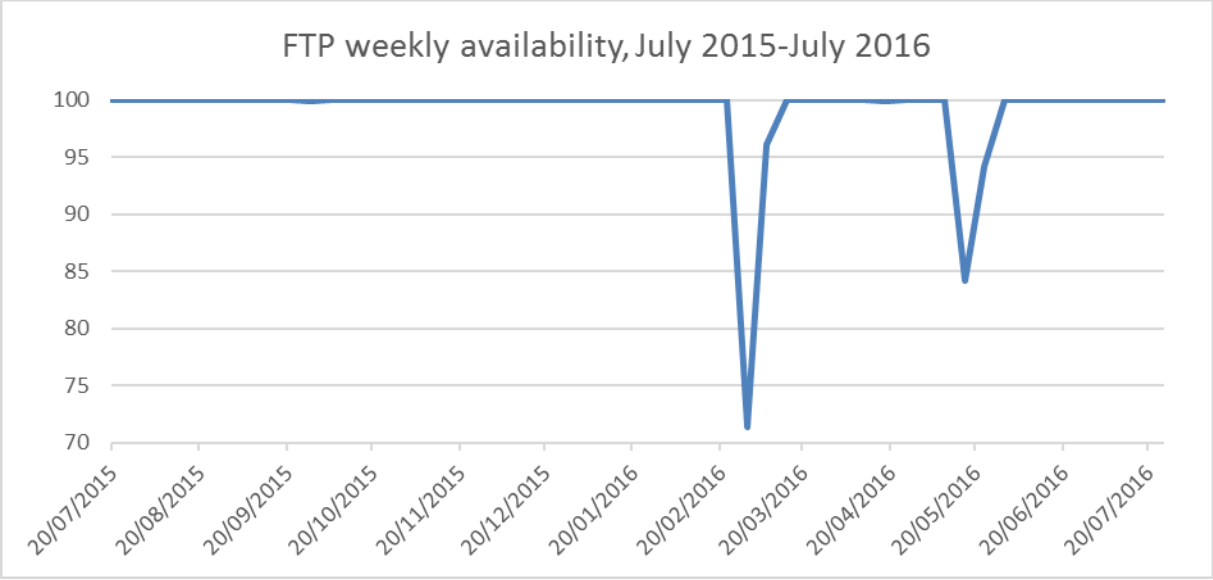
The Argo GDAC ftp server is actively monitored by a Nagios agent (http://en.wikipedia.org/wiki/Nagios).

Every 5 minutes, an ftp download test and an Internet Google query are performed. The success/failure of the test and the response time are recorded. The FTP server is a virtual server on a linux cluster.

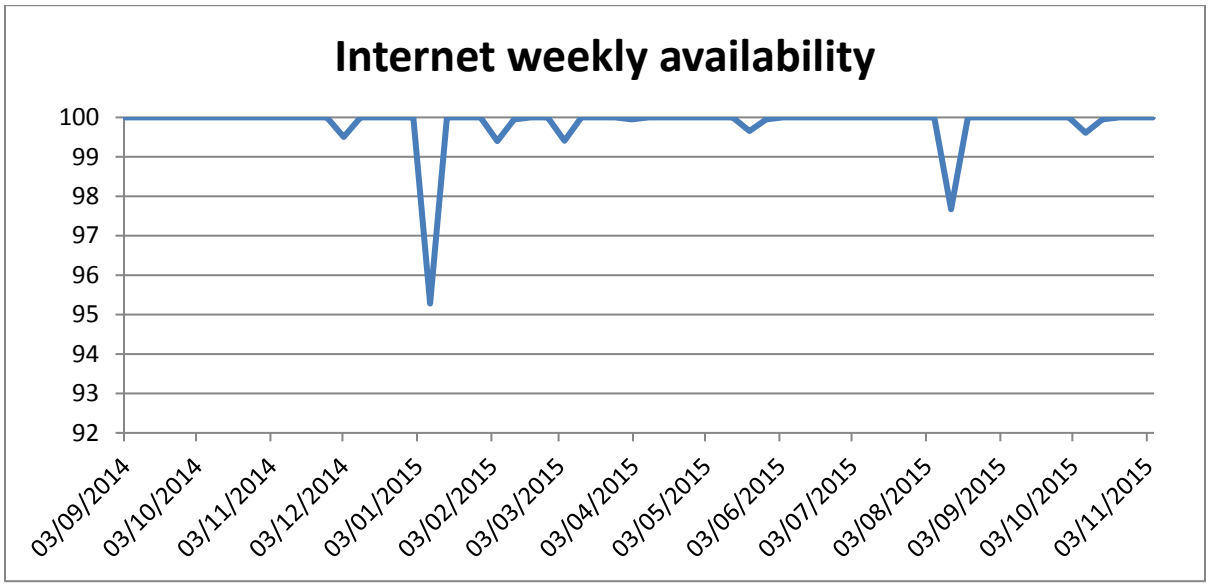
On the last 12 months, the weekly average performance was 99.51%. The 0.49% of poor performances represents 36 hours and 38 minutes.

We faced 2 significant events these last 12 months:

- First week of March: 20 hours of FTP poor performances
- Third week of May : 10 hours of FTP poor performances



Nagios ftp monitoring: between July 2015 and July 2016

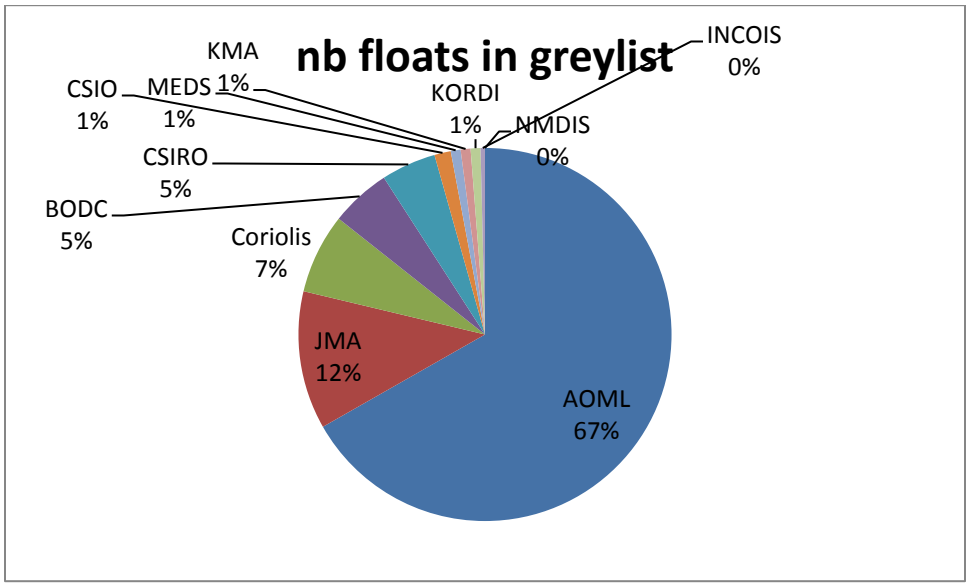


Nagios Internet monitoring: between September 2014 and October 2015

Grey list

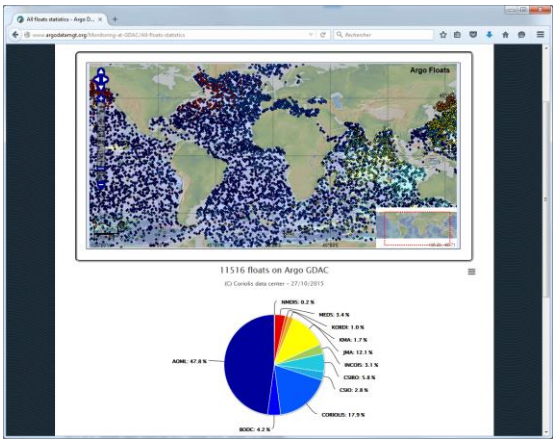
According to the project requirements Coriolis GDAC hosts a grey list of the floats which are automatically flagged before any automatic or visual quality control. **The greylist has 1054 entries** (September 16th 2016), compared to 1000 entries one year ago.

DAC	nb floats in greylist
AOML	703
JMA	126
Coriolis	73
BODC	55
CSIRO	50
CSIO	15
MEDS	9
KMA	9
KORDI	9
INCOIS	4
NMDIS	0
Total	**1053**



Statistics on GDAC content

The following graphics display the distribution of data available from GDAC, per float or DACs. These statistics are daily updated on: http://www.argodatamgt.org/Monitoring-at-GDAC



Mirroring data from GDAC: rsync service

In July 2014, we installed a dedicated rsync server called vdmzrs.ifremer.fr described on:

- http://www.argodatamgt.org/Access-to-data/Argo-GDAC-synchronization-service

This server provides a synchronization service between the "dac" directory of the GDAC with a user mirror. From the user side, the rysnc service:

- Downloads the new files
- Downloads the updated files
- Removes the files that have been removed from the GDAC
- Compresses/uncompresses the files during the transfer

- Preserves the files creation/update dates
- Lists all the files that have been transferred (easy to use for a user side post-processing)

Examples

Synchronization of a particular float

- rsync -avzh --delete vdmzrs.ifremer.fr::argo/coriolis/69001 /home/mydirectory/...

Synchronization of the whole dac directory of Argo GDAC

- rsync -avzh --delete vdmzrs.ifremer.fr::argo/ /home/mydirectory/...

Argo DOI, Digital Object Identifier on monthly snapshots

A digital object identifier (DOI) is a unique identifier for an electronic document or a dataset. Argo data-management assigns DOIs to its documents and datasets for two main objectives:

- Citation: in a publication the DOI is efficiently tracked by bibliographic surveys
- Traceability: the DOI is a direct and permanent link to the document or data set used in a publication
- More on: http://www.argodatamgt.org/Access-to-data/Argo-DOI-Digital-Object-Identifier

Argo documents DOIs

- Argo User's manual: http://dx.doi.org/10.13155/29825

Argo GDAC DOI

- Argo floats data and metadata from Global Data Assembly Centre (Argo GDAC) http://dx.doi.org/10.12770/1282383d-9b35-4eaa-a9d6-4b0c24c0cfc9

Argo GDAC monthly snapshots DOIs

- Snapshot of 2015 October 8th : http://dx.doi.org/10.12770/71b7b0ed-1e3a-4ebc-8e3b-b5b363112f2a
- Snapshot of 2015 September 08th : http://dx.doi.org/10.12770/ca035889-880d-463e-a523-10aabc3d6be3