JCOMMOPS
JCOMM Observing Program Support Centre

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Observational programme implementation

- JCOMMOPS was established in 2001 by JCOMM-I

  – to establish synergies between the DBCP, SOOP and Argo prog.

  – To support on a day-to-day basis, and on an integrated way the implementation of those in-situ marine observing systems

- In 2005 JCOMM-II extended ToR to cover the SOT as a whole, and to provide info. on satellite data requirements

- In 2009, JCOMM-II extended TOR to support OceanSITES, GLOSS, IOCCP (provided resources follow) and changed the acronym from "Platform" to "Program" to underline the need to provide a "system based" performance monitoring

- JCOMMOPS is providing technical day-to-day support regarding the implementation and operations of the main global *in-situ* observing systems, including:

  – **DBCP (data buoy cooperation panel):** Drifting and moored buoys in the high seas and tropical moorings

  – **Argo:** Profiling floats

  – **SOT (ship observations team) :** SOOP, ASAP, VOS

  – **OceanSITES:** Deep ocean time-series reference stati

- **Worldwide support**

- Develops **synergies** between observing systems (GOOS)

JCOMMOPS is now "firmly established as a major support facility for operational ocean observing system."

JCOMM co-presidents, 2009

Funding

- Funded only through **extra budgetary** (MS) and **host** resources

- Large international support

- Most of the financial effort supported by the Argo/DBCP

- Some SOT funding

Ocean observing system implementation and operations

- ## JCOMMOPS is
  - Encouraging data sharing & exchange, including real-time and delayed mode
  - Provides day to day coordination, Technical assistance & expertise on
    - Instrumentation
    - Satellite data telecommunication
    - Data processing & exchange
      - GTS, WIS
      - Argo data system
      - Flow to archiving centres
    - Relay of quality information from data users to data producers
    - Collection of instrument/platform metadata

- **JCOMMOPS is**
  - Providing information on
    - Requirements (WWW, GOOS/GCOS)
    - Programme status & adequacy with requirements
      - Monitors and evaluates the performance of the networks
      - Status reports, maps
      - Independent source of information
      - Deployment opportunities by air & ship
      - Contact points
    - Instrumentation, and manufacturers
    - Vandalism
  - Acting as a clearing house and focal point on all programme aspects
  - Dialogue between meteorologists & oceanographers

JCOMMOPS is <u>NOT</u> a data centre

- **Provides information on how to get the data**
- **Acts as a gateway**
  - Buoy data
    - RNODC/DB: ISDM, Canada
    - SOC/DB: Météo France
  - XBT data
    - GTSPP:
      - MEDS, Canada
      - NOAA/NODC, USA
  - Argo data
    - GDACs: US, France
    - Other Argo data centres
- **Assists for the collection of instrument/platform metadata**
- **Assists for the distribution of *in situ* ocean data**

Infrastructure

- JCOMMOPS, hosted by France (**CLS**/Coriolis), has recently been renewed, with extended mandate to integrate more components of Observing System

- Modern Information System with Oracle DB, GIS (ArcGIS 10), web
  - Web based monitoring system
  - On-line Platform/Program (meta)database
  - Monthly maps and statistics
  - Cooperation with Data Centres (in the background) so they improve their data/metadata distribution service(GTS, Coriolis, NODC, AOML, ODAS/NMDIS, etc)

- JCOMMOPS comprises two Technical Coordinators, a senior scientist, an I.T team:

JCOMMOPS ~= 5 people !!!

6 soon with SOT support.

Part-time activities are not fully compatible with "focus"

– I.T. resource (~2 ½ time software engineers)

3261 Argo Floats

⊕	ARGENTINA (11)	●	CHINA (31)
⊙	AUSTRALIA (224)	⊙	ECUADOR (3)
●	BRAZIL (10)	●	EUROPEAN UNION (17)
●	CANADA (118)	●	FRANCE (156)
●	CHILE (10)	○	GABON (2)

Ship Observation Team   VOS   ASAP   XBT   TSG   XCTD   jcommops   2010
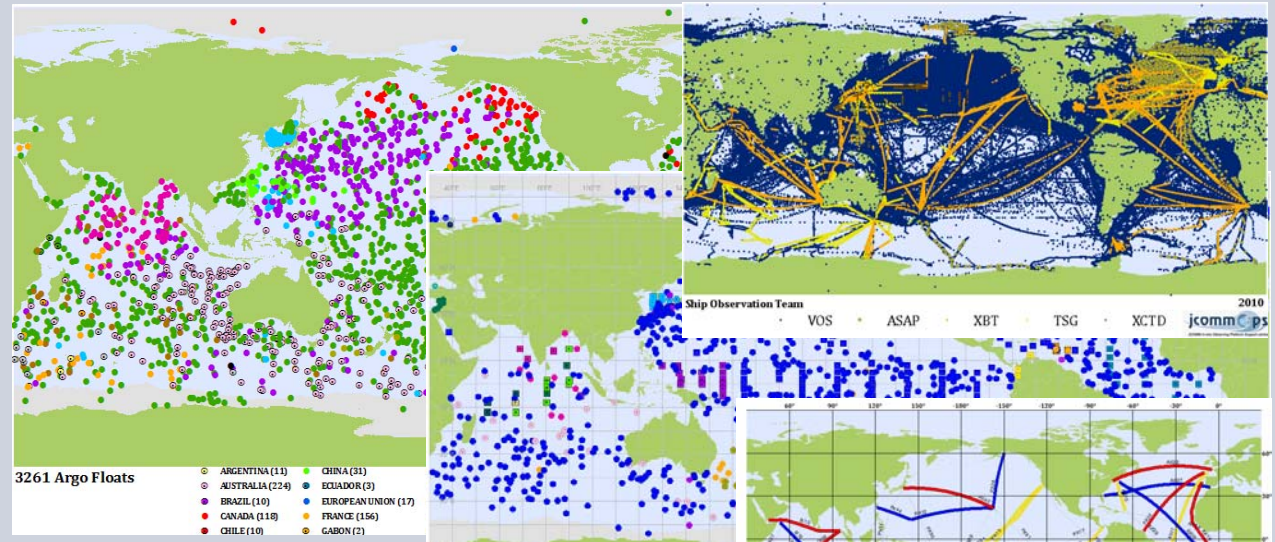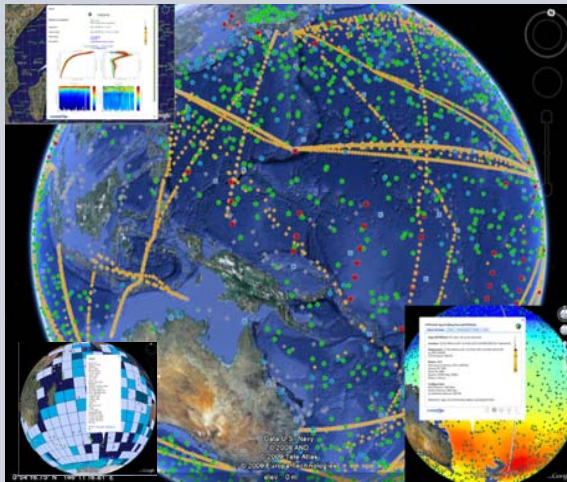
Real time

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Inte

Services, XML metadata exports, etc.   meet their requirements

Requires a careful assembling and **quality control of metadata** following some rather labour intensive tasks, and privileged links with implementers and platform operators

JCOMM OCG components "identity"

Products & Services: News

Ship Observation Team
VOS Density
ATMPRESS # Obs / day

0	1-2	3-4	5-6	12-24
0-1	2-3	4-5	6-12	24+

2010

jcomm ps

Argo Density Σ
100% = 4 (new
*p = float probability

Deployment Planning Scores (539)
μ = 0.32   0   0 - 0.25   0.25 - 0.5   0.5 - 0.75   0.75 - 1

February 2011

jcomm ps
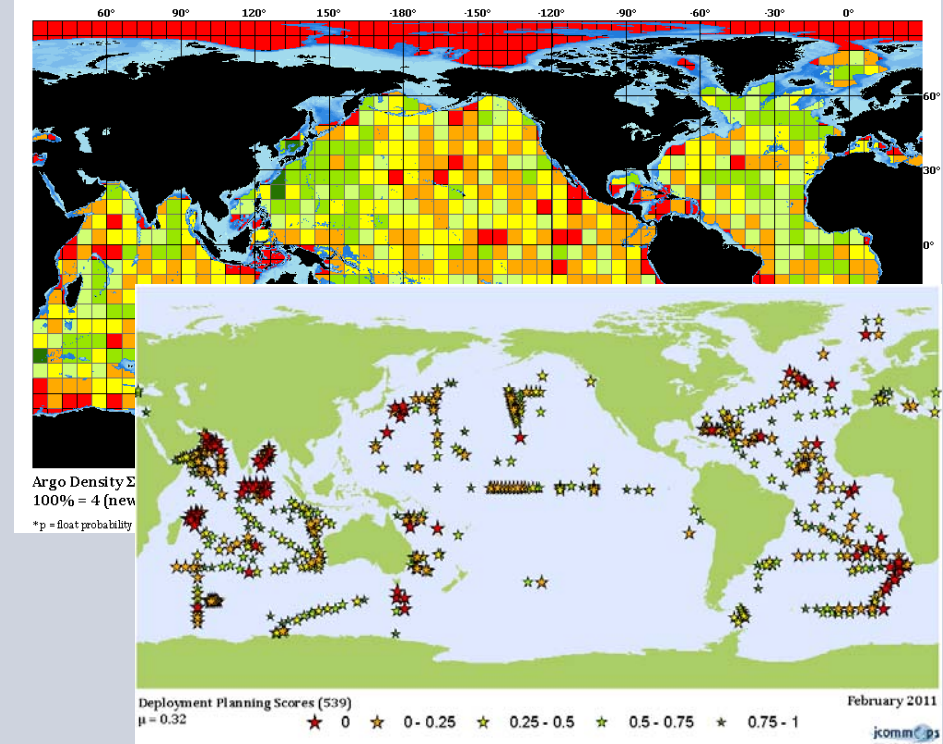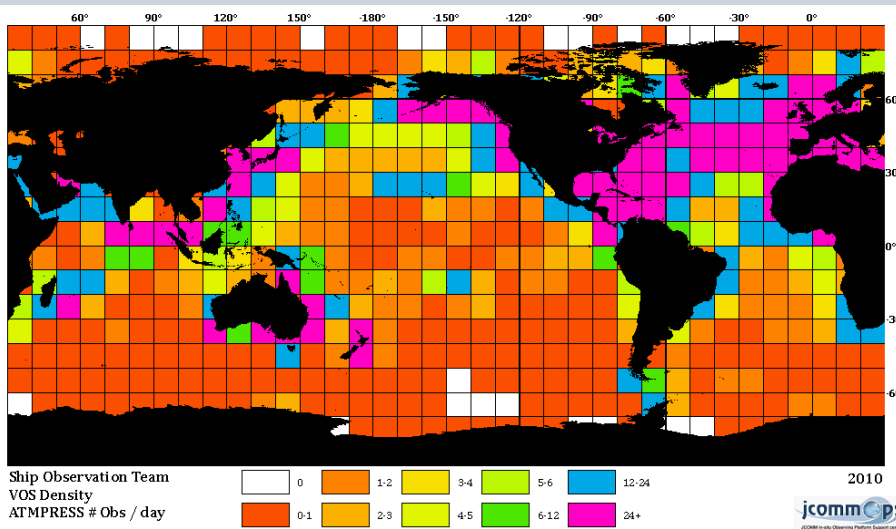
- Density map for any dataset

- Scoring system for deployment planning

- Bilateral EEZ warning system (IOC Res. XLI-4)

Metrics are designed, and gradually finalized according to the requirements of each component of JCOMMOPS.

3214 Argo Floats

February 2011
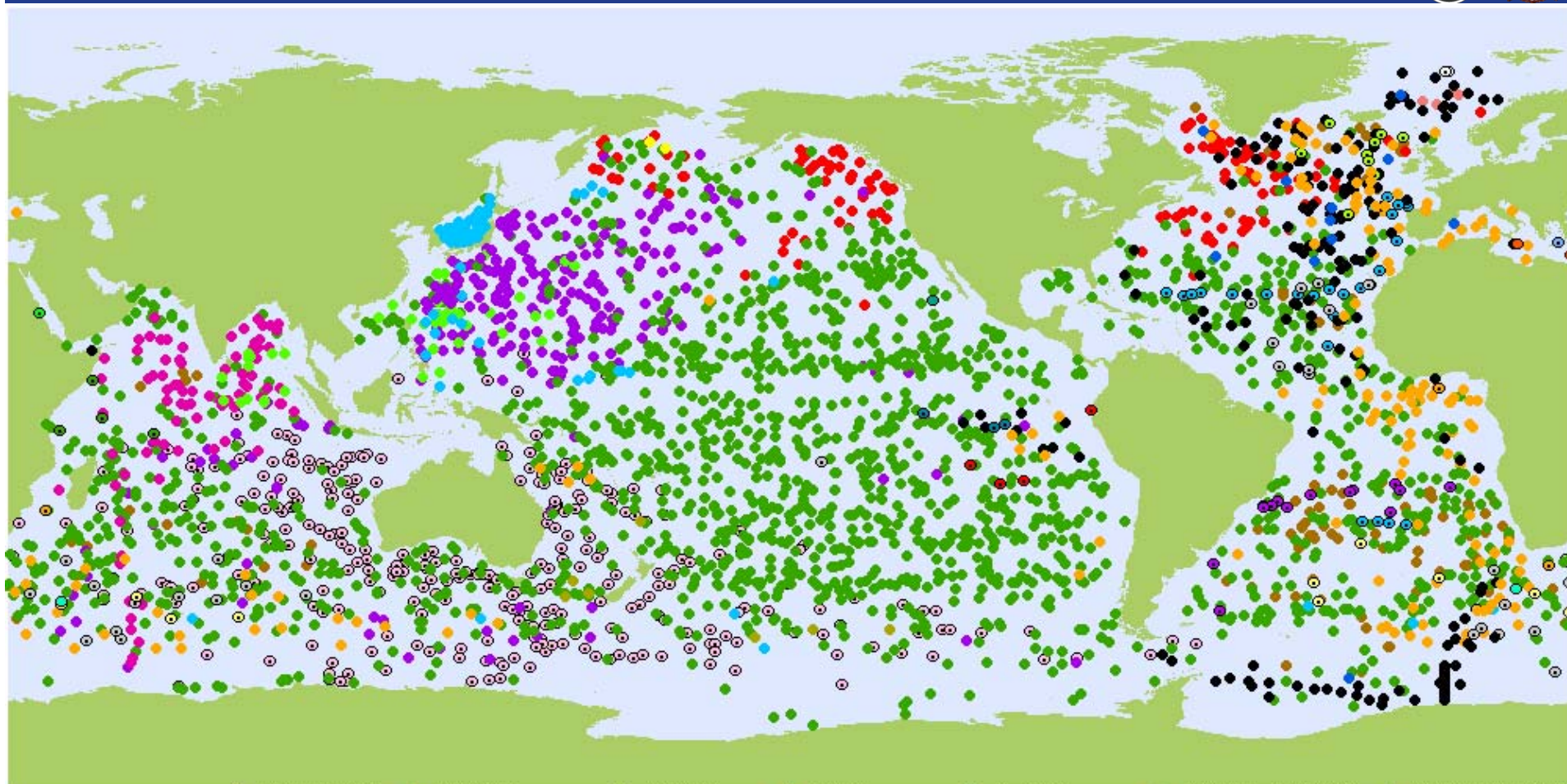
⊙	ARGENTINA (10)	●	CHINA (46)	⊗	GABON (1)	●	ITALY (2)	●	MEXICO (1)	●	RUSSIAN FEDERATION (2)	● UNITED STATES (1723)
⊙	AUSTRALIA (296)	●	ECUADOR (3)	●	GERMANY (173)	●	JAPAN (278)	⊙	NETHERLANDS (31)	⊙	SAUDI ARABIA (1)	
●	BRAZIL (14)	●	EUROPEAN UNION (12)	⊗	GREECE (1)	●	KENYA (4)	●	NEW ZEALAND (7)	●	SOUTH AFRICA (2)	
●	CANADA (124)	⊙	FINLAND (2)	●	INDIA (83)	●	SOUTH KOREA (87)	●	NORWAY (4)	●	SPAIN (26)	
●	CHILE (4)	●	FRANCE (162)	⊗	IRELAND (9)	●	MAURITIUS (2)	⊙	POLAND (0)	●	UNITED KINGDOM (104)	

11
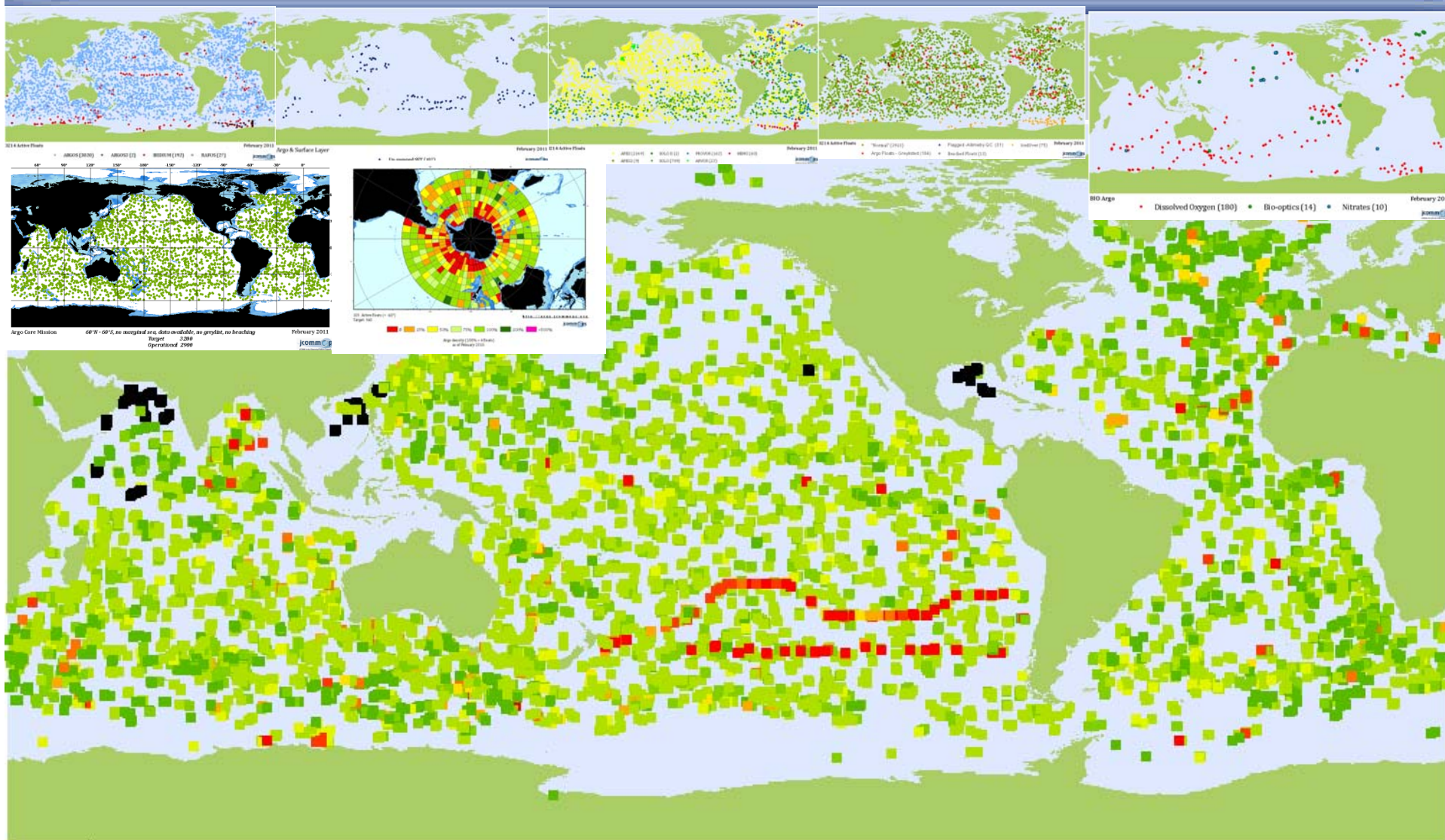
GTS Delays

GTS Delays
μ=20h   me=14h
89% reaches GTS within 24h
8976

December 2010

■ Errors	■ 7 - 12h	■ 25 - 48h	■ 73 - 96h	■ 121 - 240h
■ < 6h	■ 13 - 24h	■ 49 - 72h	■ 97 - 120h	■ > 240h

Support to Pilot Projects (Argos-3, Iridium)
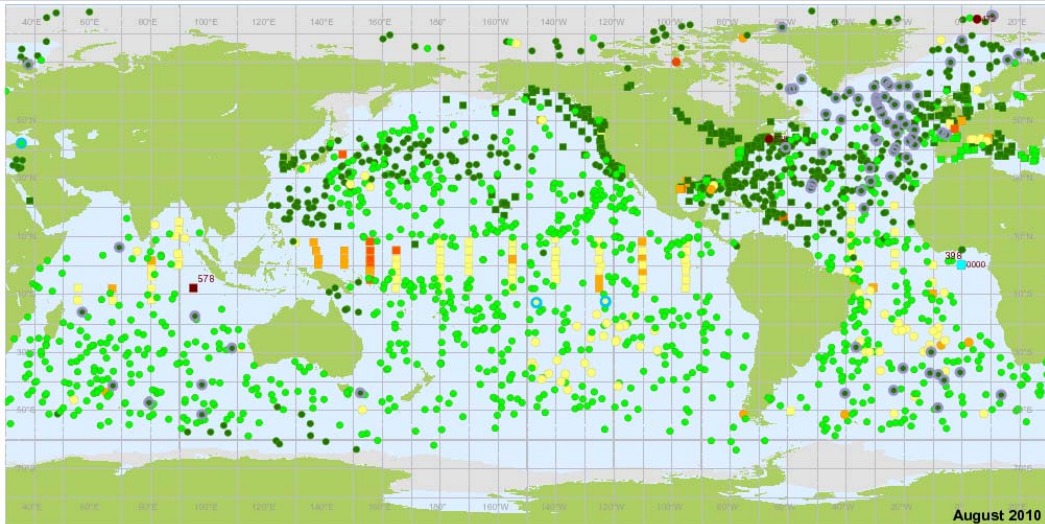
Average Delay (minutes) • < 60 • 61 - 120 • 121 - 180 • 181 - 240 • 241 - 300 • > 300 ○ Iridium (75) ○ Argos-3 (3)
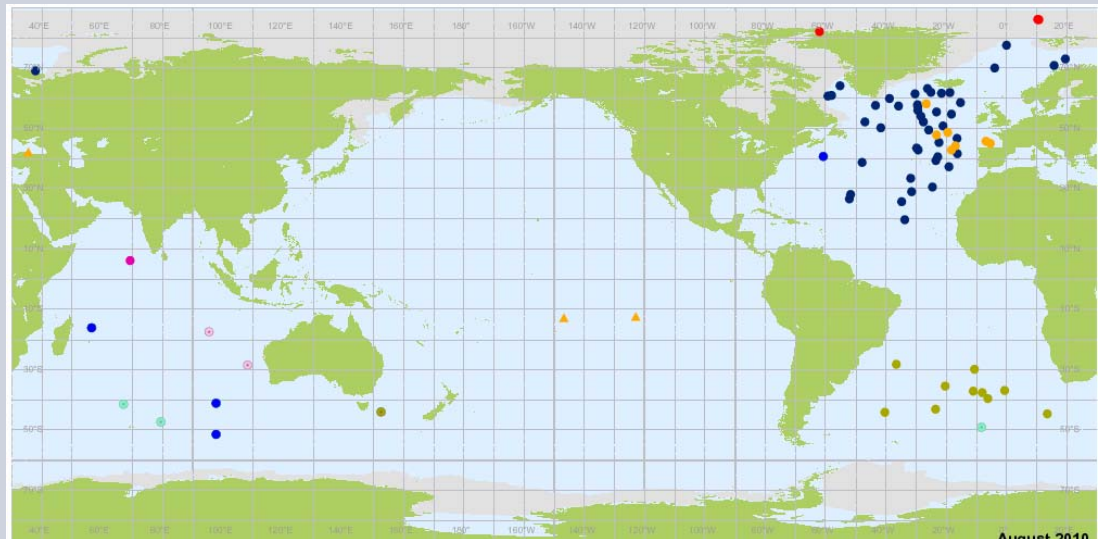
August 2010

DBCP Pilot Projects (Iridium and Argos-3 Drifters by Country)
Iridium Drifting Buoys (75)
• AUSTRALIA (2)
• CANADA (3)
• EUROPE/ESURFMAR (44)
• FRANCE (7)
• INDIA (1)
• JAPAN
• NEW ZEALAND (1)
• SOUTH AFRICA (3)
• UK (10)
• UKRAINE (0)
• USA (4)
Argos-3 Drifting Buoys
▲ FRANCE (3)
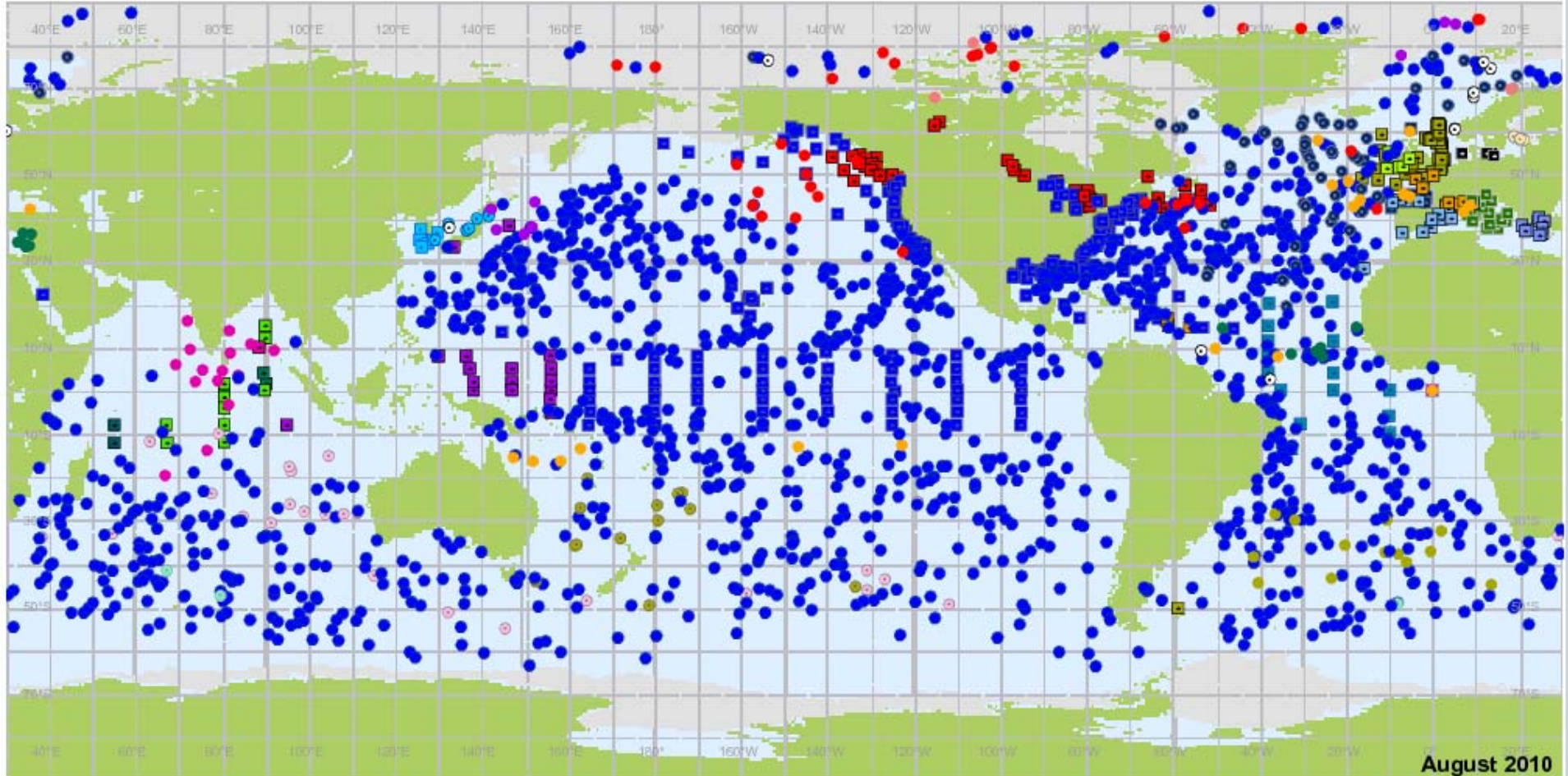
August 2010

August 2010

Drifting Buoys (1559)	FRANCE (20)	NORWAY (4)	UK (13)	Moored Buoys (477)	FRANCE (15)	ITALY (15)	SPAIN (14)	USA-INDIA (10)
AUSTRALIA (26)	INDIA (16)	SOUTH AFRICA (3)	USA (1334)	BRAZIL (1)	GERMANY (4)	IRELAND (5)	UK (60)	USA-INDON. (3)
BRAZIL (0)	ITALY (12)	SOUTH KOREA (7)	UNKNOWN (11)	BR-FR-US (15)	GREECE (9)	JAPAN (17)	USA (248)	UNKNOWN (0)
CANADA (34)	JAPAN (8)	SPAIN (0)		CANADA (45)	INDIA (1)	SOUTH KOREA (6)	USA-ASCLME (2)	
EUROPE/ESURFMAR (54)	NEW ZEALAND (13)	SWEDEN (4)		EUROPE/ESURFMAR (7)				
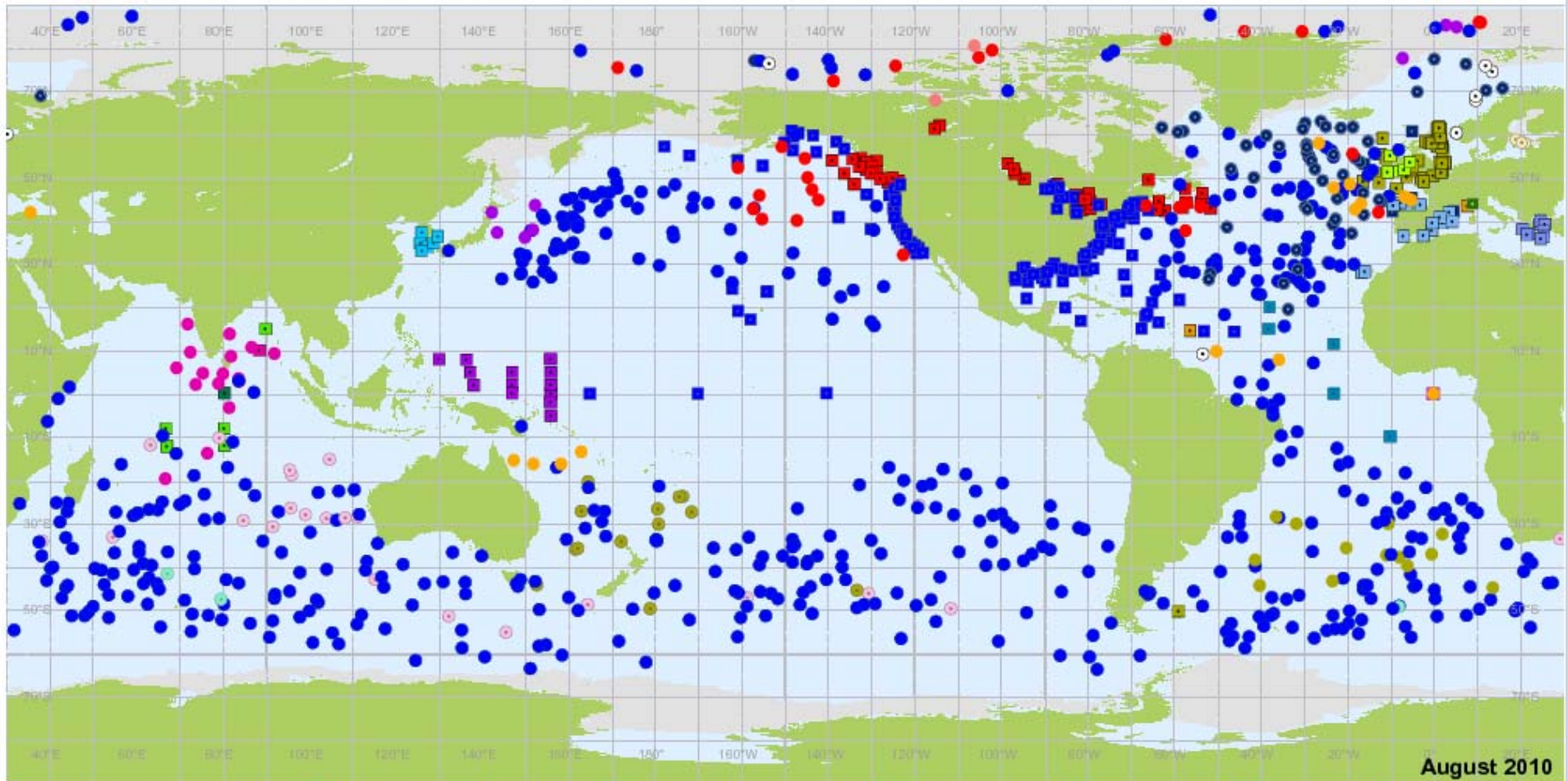
August 2010

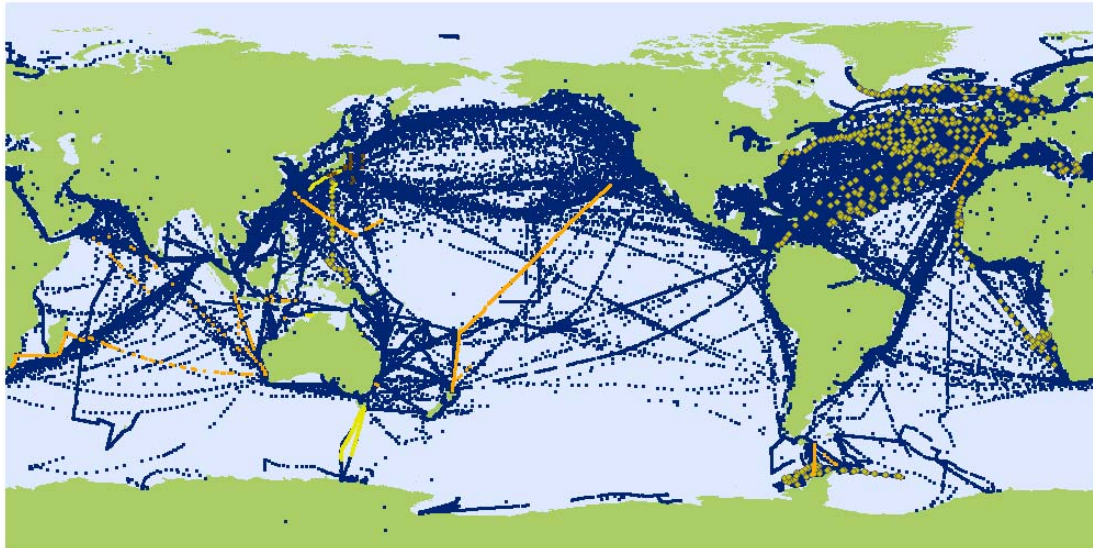| Barometer Drifting Buoys (706) | FRANCE | NORWAY | UKRAINE | Moored Buoys (308) | EUROPE/ESURFMAR | IRELAND | SPAIN | USA-INDIA |
AUSTRALIA	GERMANY	SOUTH AFRICA	USA	BRAZIL	FRANCE	ITALY	UK	USA-INDON
BRAZIL	INDIA	SPAIN	UNKNOWN	BR-FR-US	GREECE	JAPAN	USA	UNKNOWN
CANADA	JAPAN	SWEDEN		CANADA	INDIA	SOUTH KOREA	USA-ASCLME	
EUROPE/ESURFMAR	NEW ZEALAND	UK		COLOMBIA				
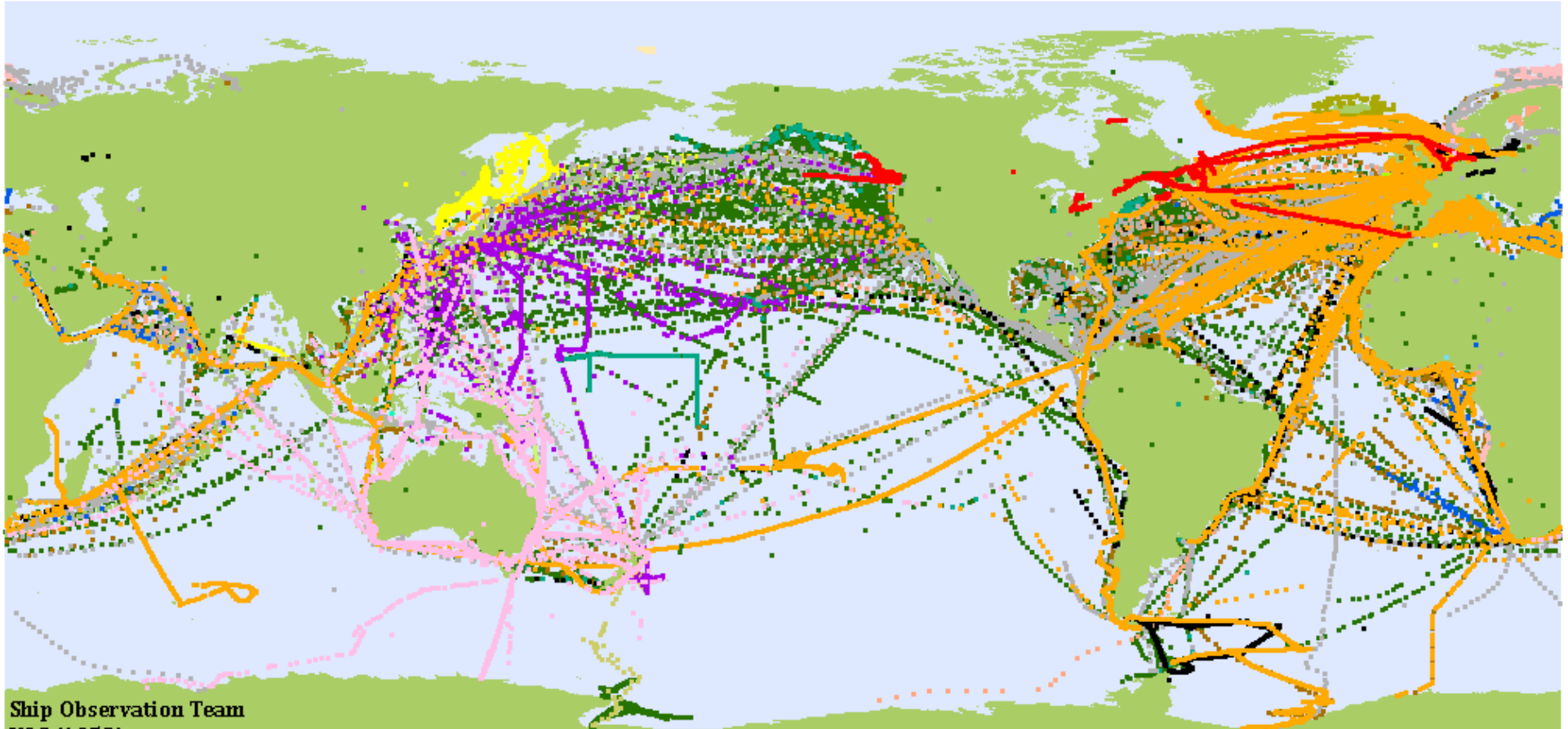
Ship Observation Team
VOS (1953)
Reports (151541)

February 2011

Ship observations (by type)

Ship Observation Team

· VOS · ASAP · XBT · TSG · XCTD

January 2011
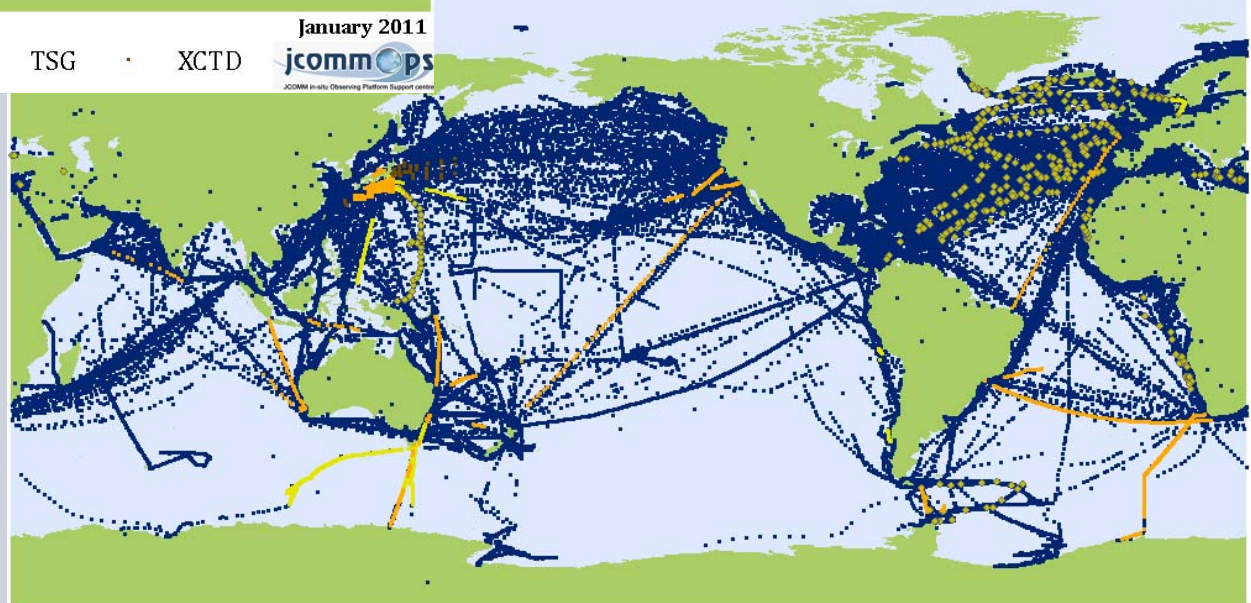
Ship Observation Team

· VOS · ASAP · XBT · TSG · XCTD

February 2011

Ship Observation Team
VOS Density
ATMPRESS # Obs / day

February 2011

0	
1-2	
3-4	
5-6	
12-24	
0-1	
2-3	
4-5	
6-12	
24+	

18
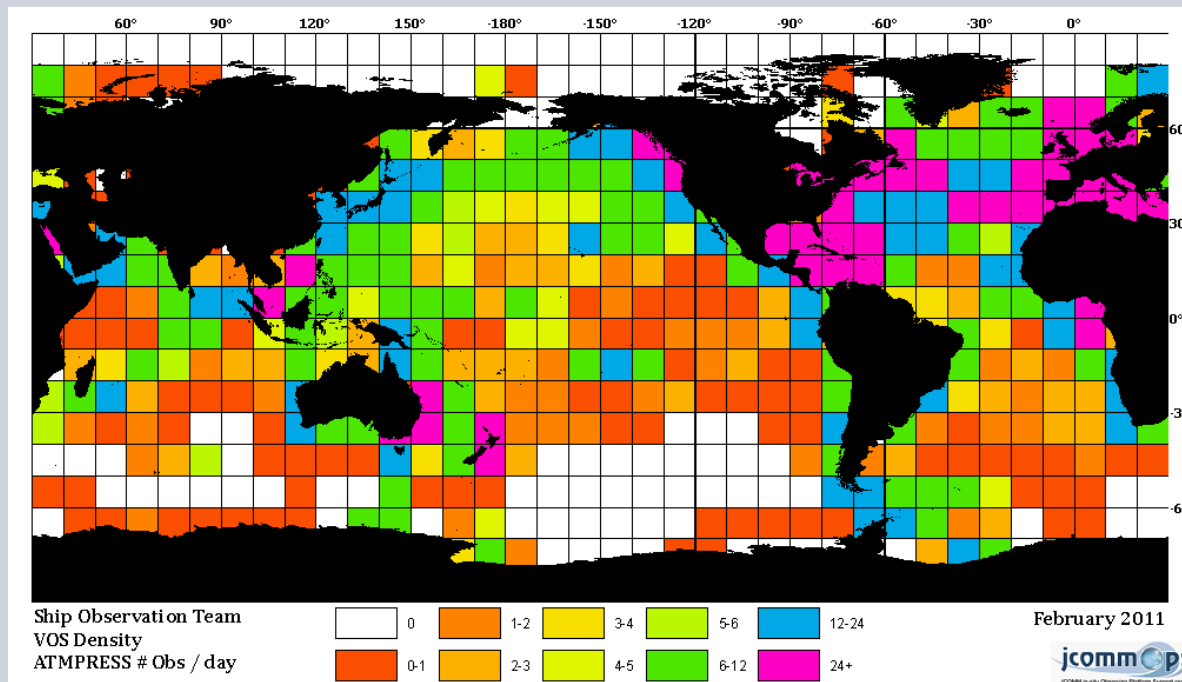
Metadata essential to compare what is being done at sea
and what reaches the Data Centres
(Quantitative, qualitative, timeliness, etc)

Argo Network Growth

http://argo.jcommops.org/argo.kml
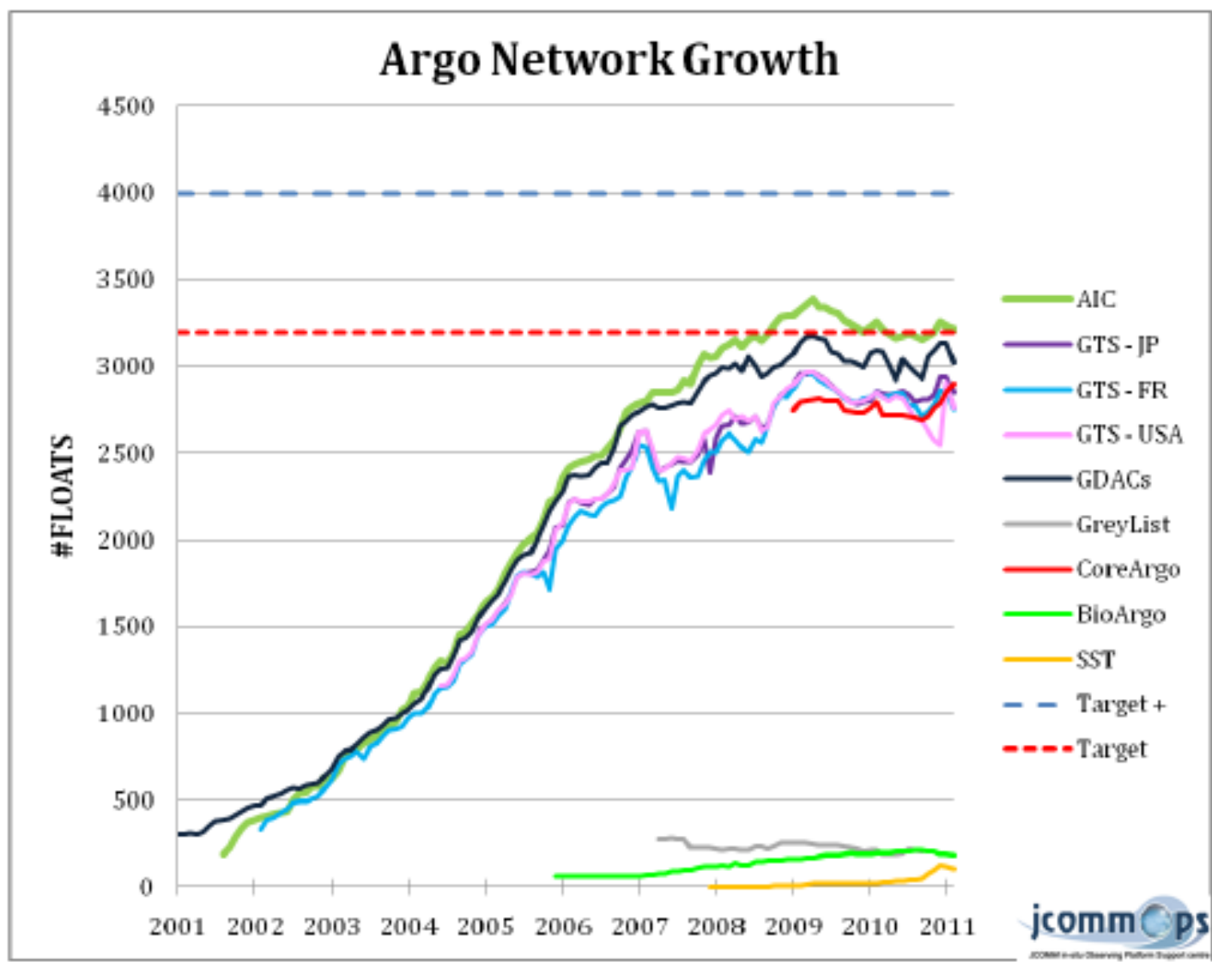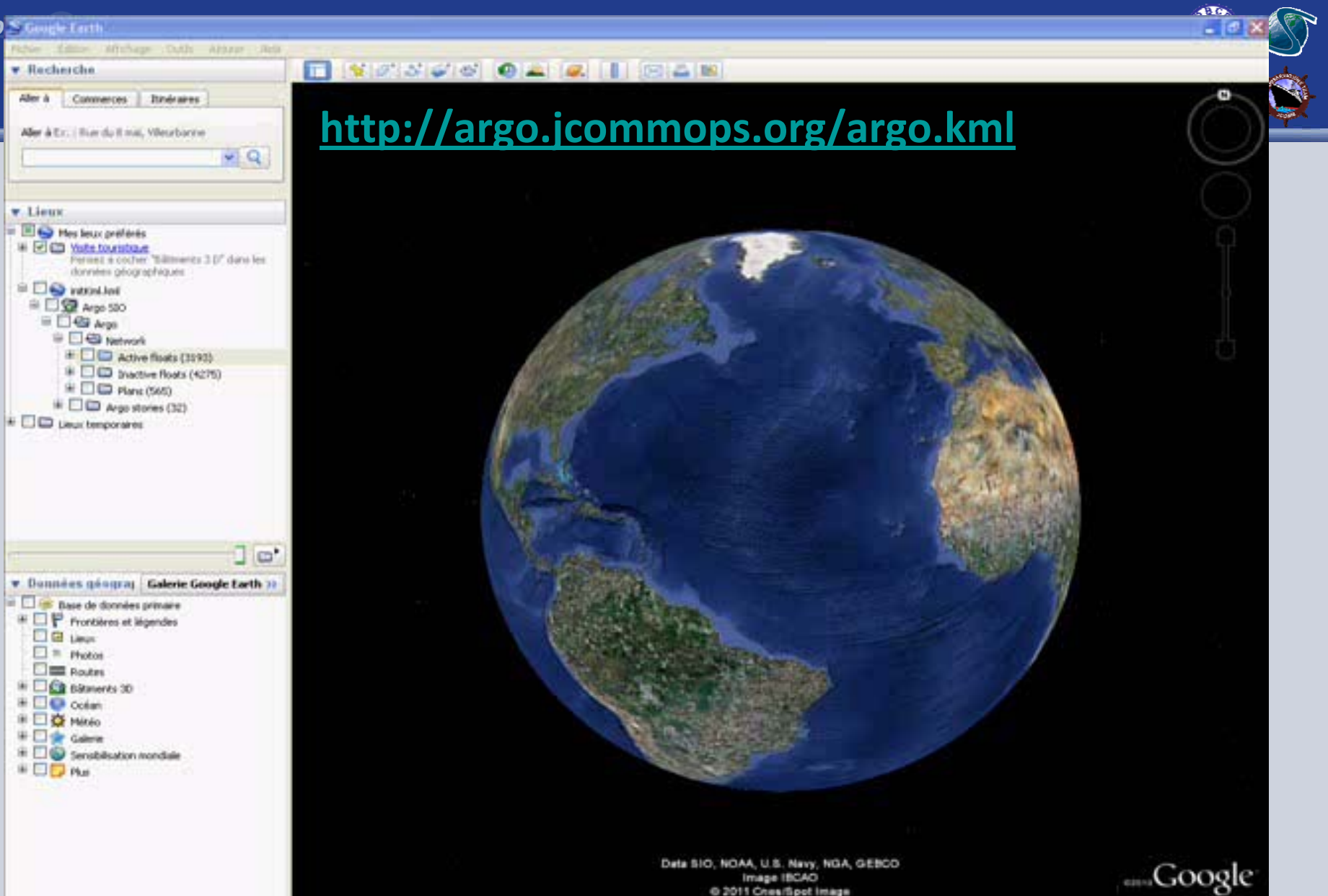
Monitoring, Operations, Promotion, Outreach and humanization of the GOOS netwroks

Deployment Opportunities: sailing ship Lady Amber

- JCOMMOPS has started to charter a 20m sailing vessel the "Lady Amber" for the community

- Ship was first inspected by a SAWS PMO (essential)

- Ship has been sailing for a two weeks test cruise in December 2010 and deployed 4 floats for CSIRO (modest … but promising opportunity)

- Contacts were established with SA Argo, and local oceanographers

JCOMMOPS expansion

- IOCCP
  - Promising discussions
  - Actions needed

- GO-SHIP
  - The cruise coordinator position could also serve those programmes
  - Funding required
  - JCOMMOPS to also better define the potential services

- Gliders, Marine Mammals (regional coordination)
  - They are aware of JCOMMOPS
  - We did help them
  - ...

Conclusion

- **JCOMMOPS is about Coordination, Monitoring, Assistance, Cooperation**

- **For marine climate data users, JCOMMOPS**
  - **Has 10-year record of status, quality, and platform metadata information**
  - **Is pro-active for the collection & distribution of data and metadata for newly deployed platforms**
  - **Provides information on data centres and where to get the data**
  - **Focal point on programme implementation aspects**

- **An element of the WIGOS integration**

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