

The Ship Of Opportunity Programme

Status of the XBT Network

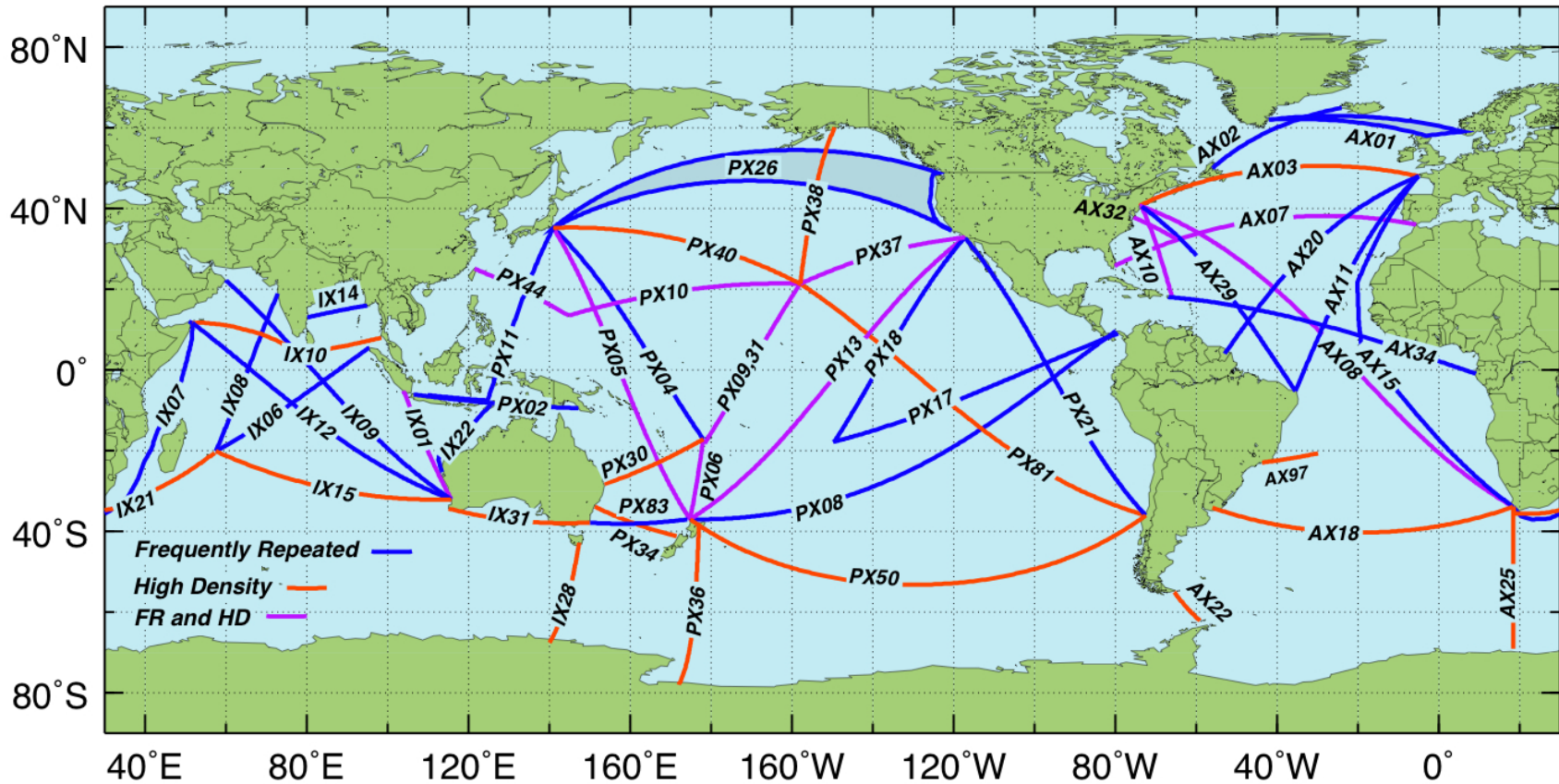
Gustavo Jorge Goni
on behalf of the members of the SOOPIP

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SOT 8 – SOOPIP 11 – Cape Town, South Africa, April 20-24, 2015

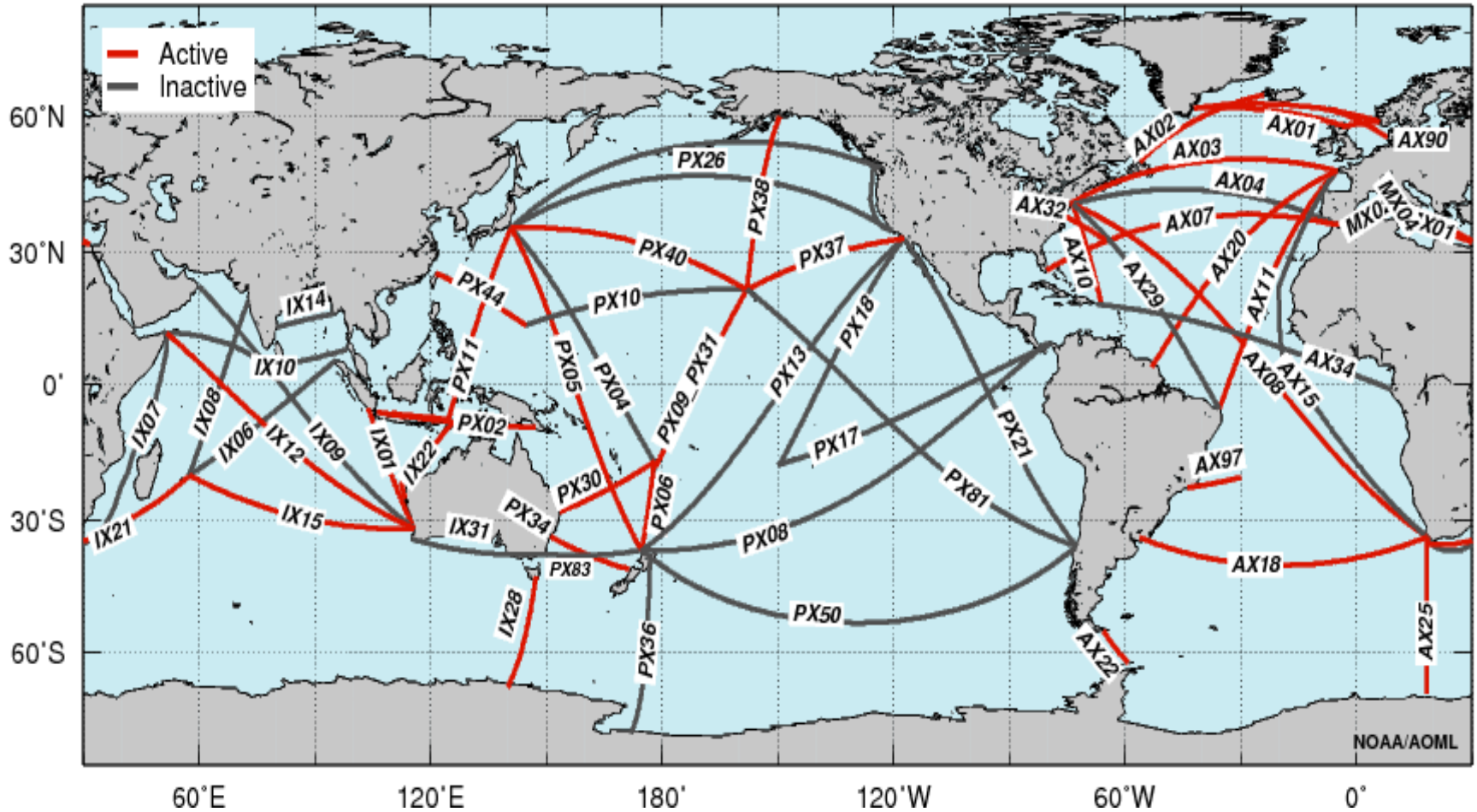
XBT Network



- **Frequently Repeated (FR) mode (25)**
- **Low Density (LD) mode (0)**
- **High Density mode (High Frequency mode) (25)**
- **International effort**



XBT Network



ACTIVE TRANSECTS: 29 (58%)

INACTIVE TRANSECTS: 21



How to assess SOOP goals

- **Main Metric:** Number of transects (50 proposed, 29 active, **58%**)

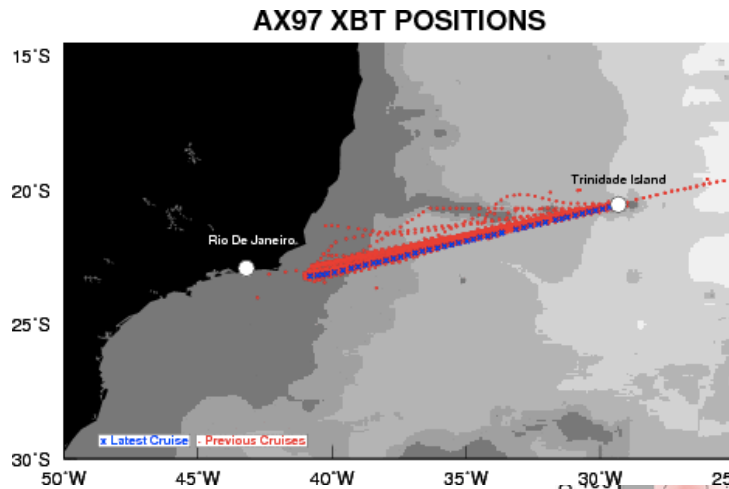
Others:

- Number of XBT deployments (~20K profiles per year, **40%**)
- Number of scientific publications (72 scientific publications in 2014, ___%)
- Contribution to measure Meridional Heat Transport (**100%**)
- Contribution to monitor all 5 subtropical western boundary currents (Brazil, Agulhas, Gulf Stream, Kuroshio, East Australian) (**100%**)



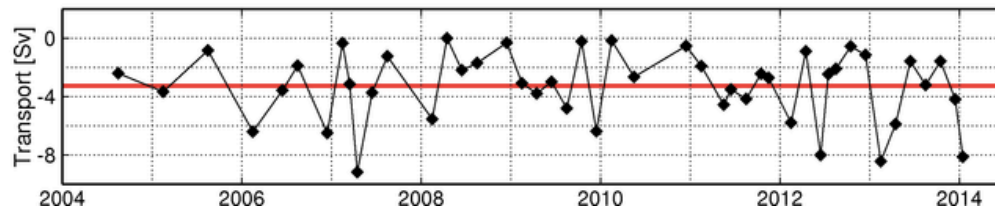
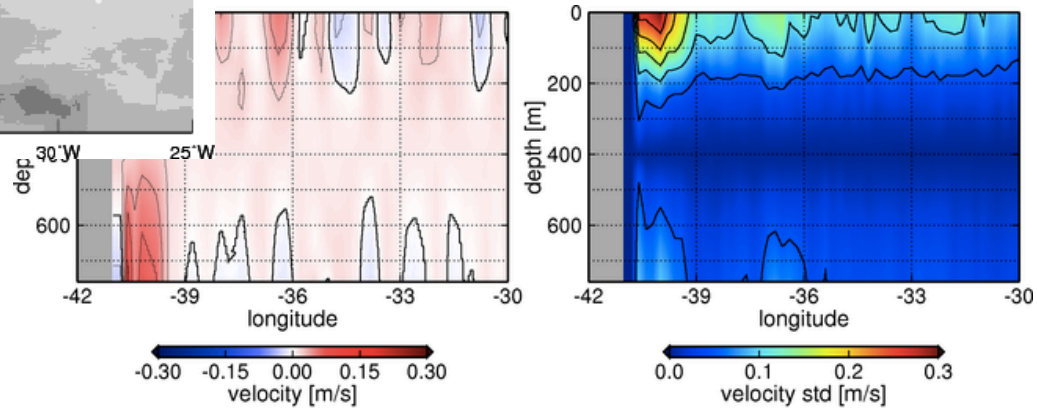
How to assess SOOP goals

Subtropical western boundary currents



AX97

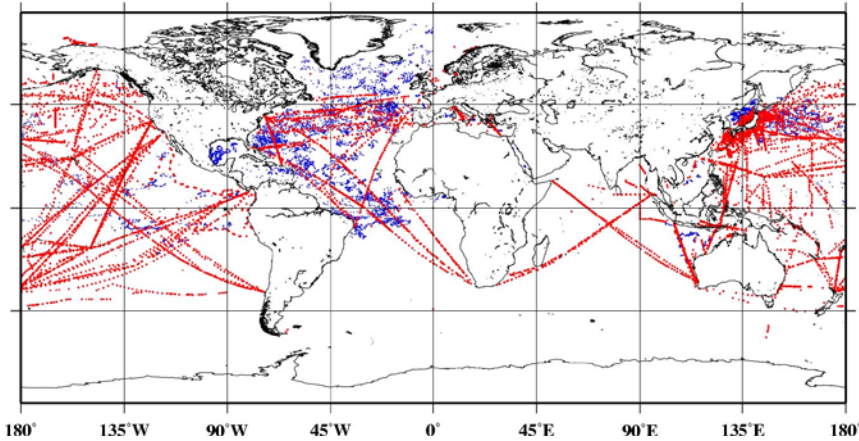
- 55 realizations
- Started in 2004



XBT and Argo floats observations

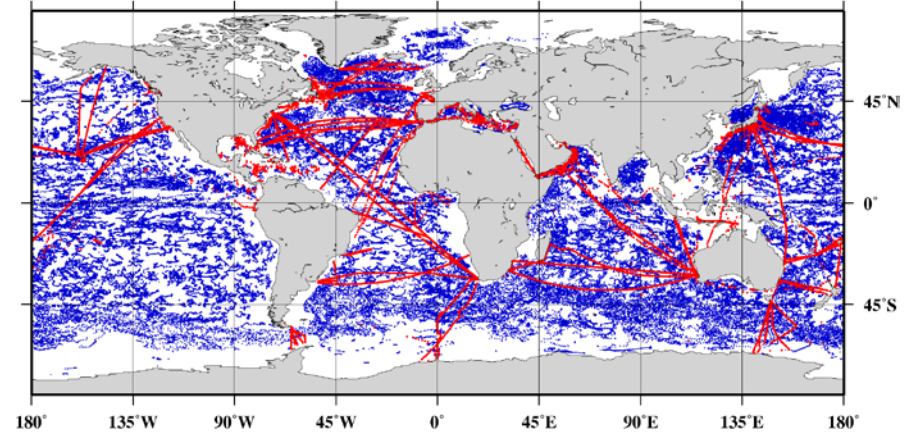
Spatial sampling

2000



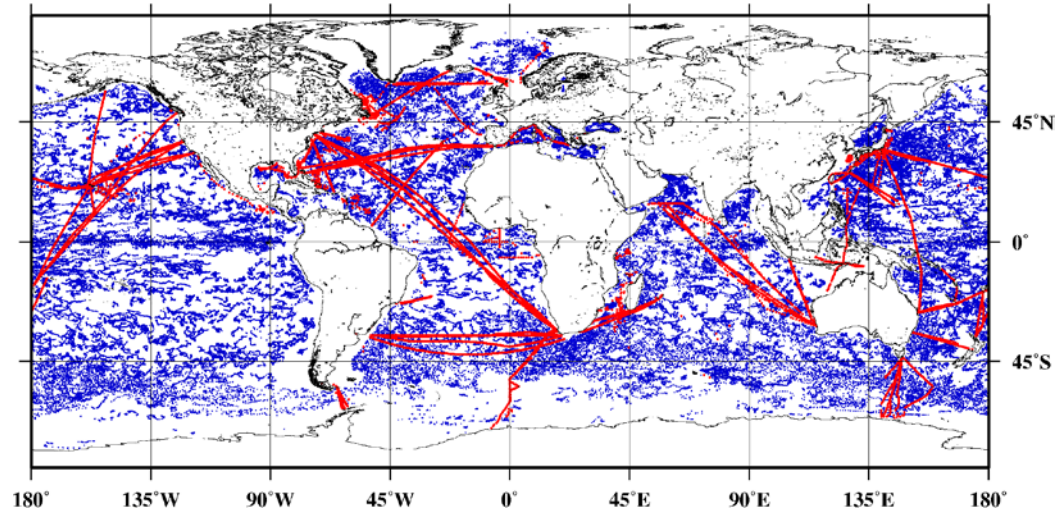
2012

YEAR 2012
Number of Obs: ARGO- 139257 XBT- 16965

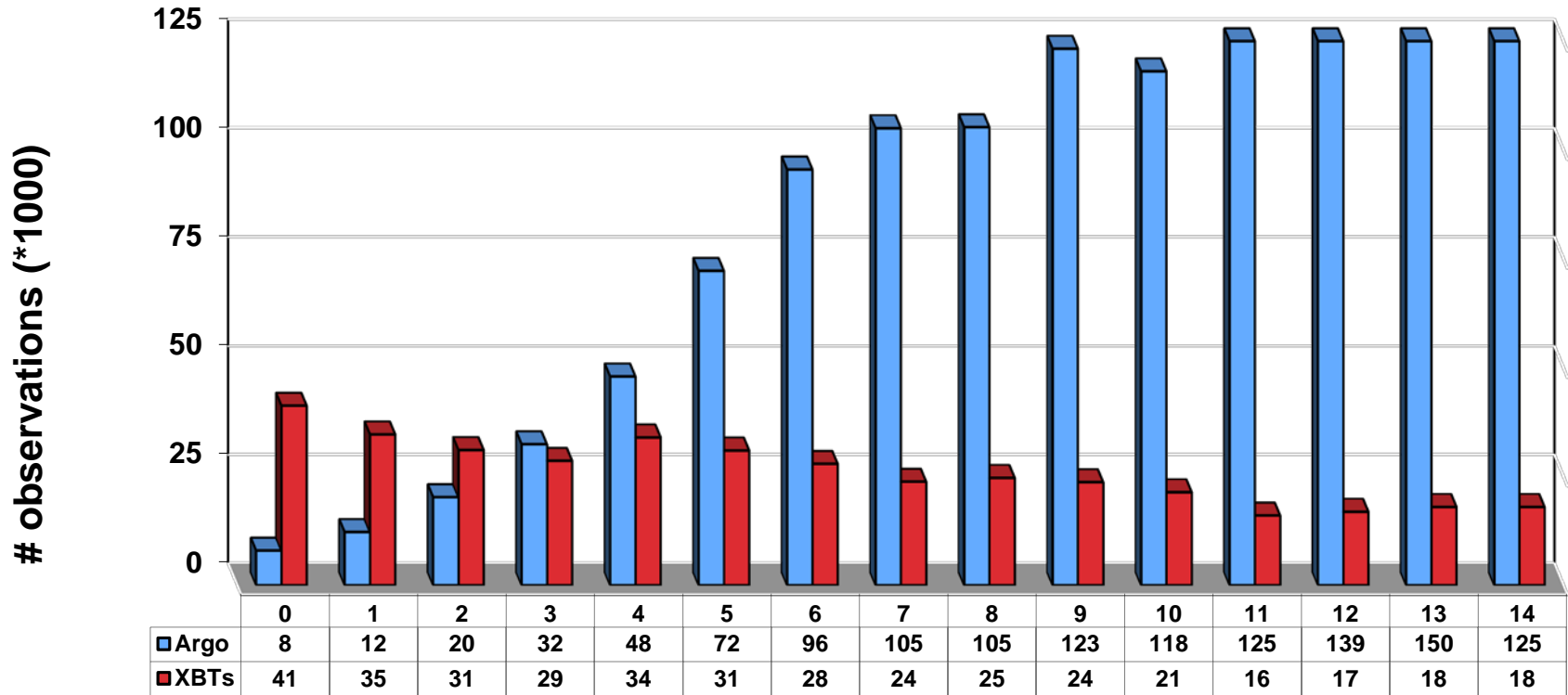


YEAR 2014
Number of Obs: ARGO- 125294 XBT- 17666

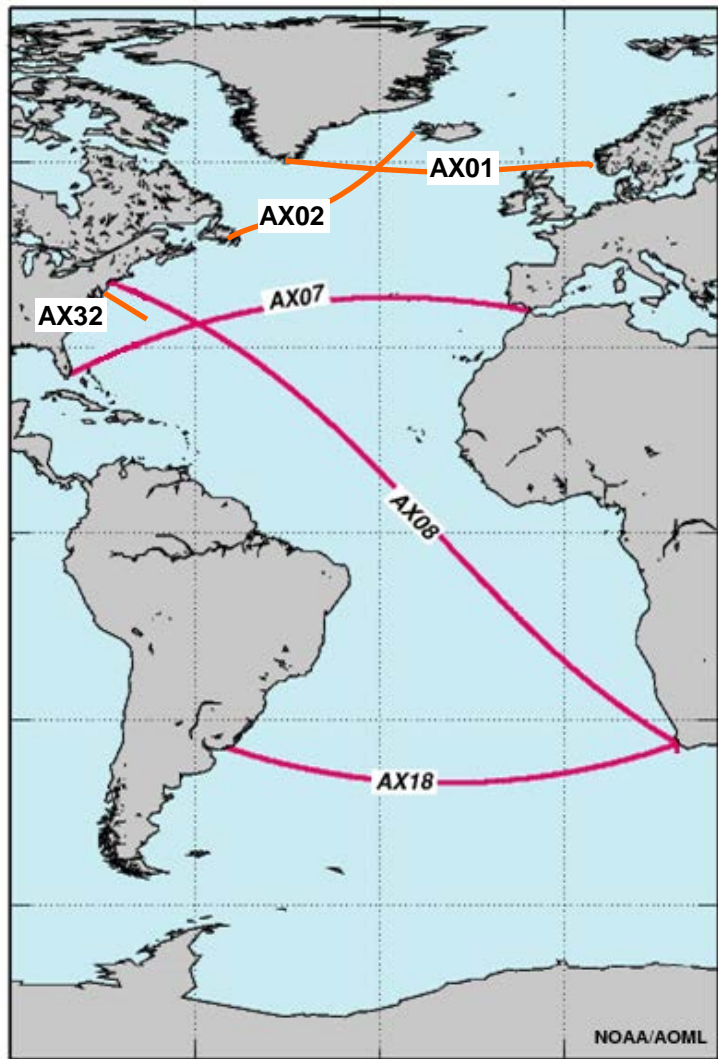
2014



XBT and Argo floats RT data temporal sampling



Deployment opportunity for other platforms



Number of Drifters and Argo float deployments during HD XBT cruises in the Atlantic Ocean (2013 – 2014)

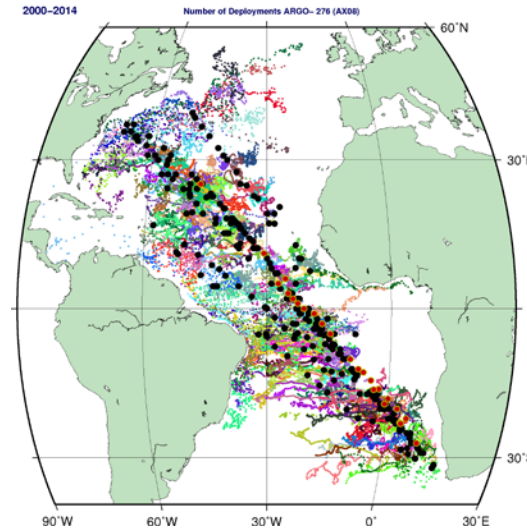
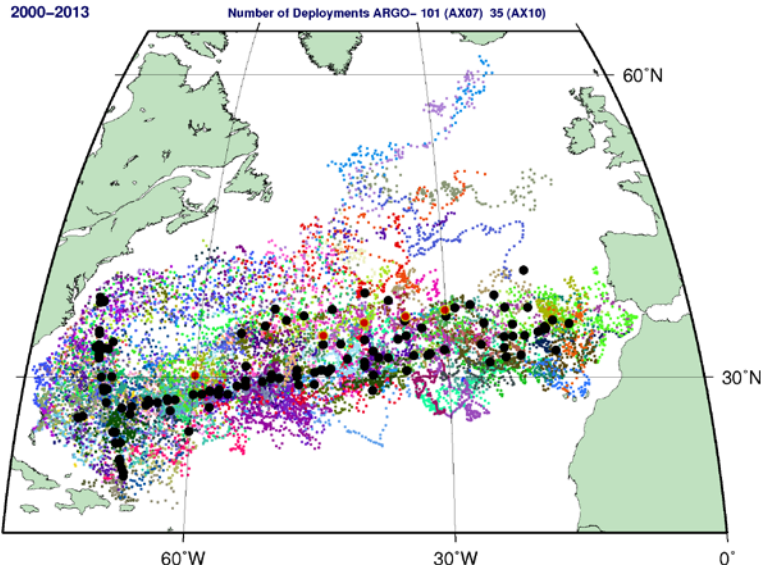
	Drifters	Argo
AX07	42	11
AX08	56	38
AX18	0	18
Total	98	67

Super-SOOP ships:

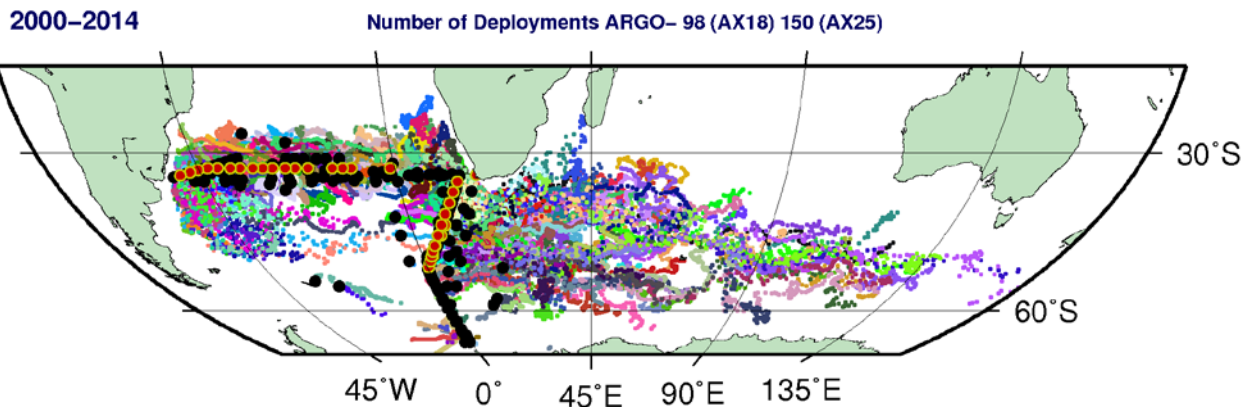
- *Nuka Arctica*: ADCP, pCO₂, TSG, XBT (AX01)
- *Oleander*: ADCP, CPR, TSG, XBT (AX32)
- *Reykjafoss*: pCO₂, TSG, XBT (AX02)
- *Barcelona Express*: pCO₂, TSG, XBT (AX07)
- *Explorer*: Argo, Drifters, TSG, XBT (AX07, AX18)
- *Explorer of the Seas*: TSG, ADCP, MET



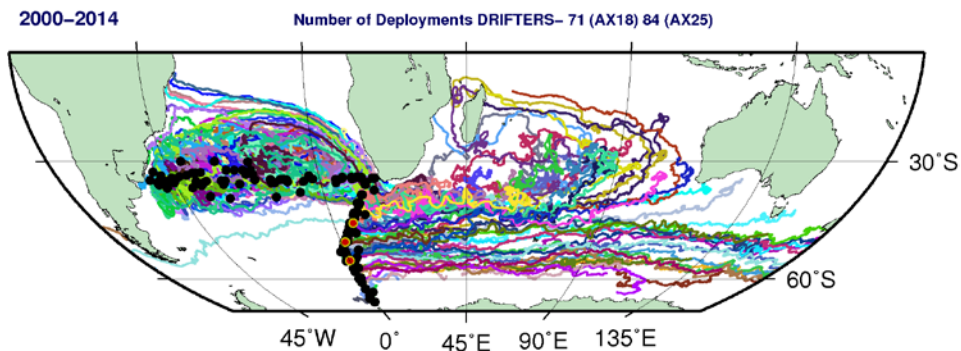
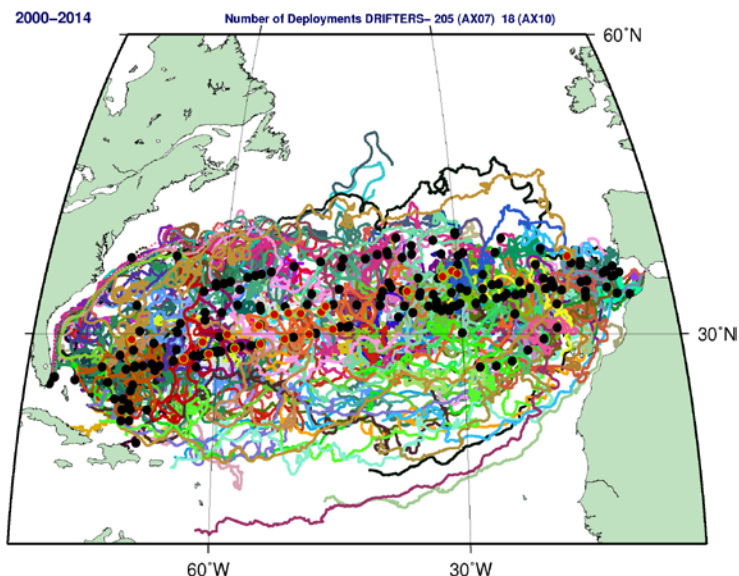
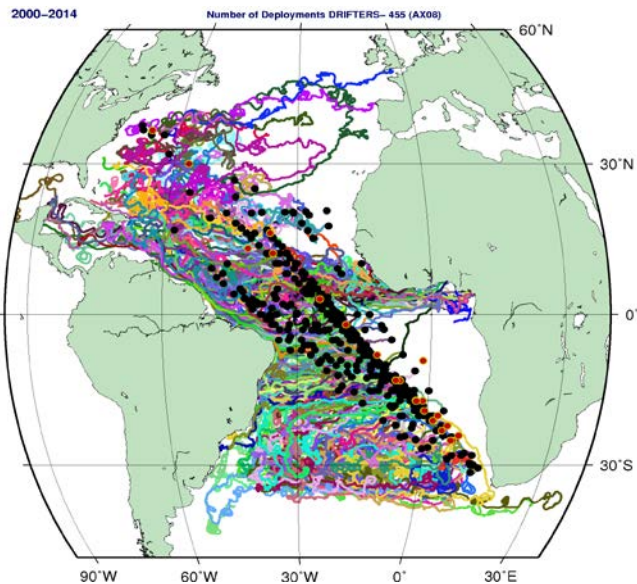
Deployment opportunities for other platforms – Argo floats



**660 Profiling floats
deployed from ships
of the XBT network
in the Atlantic Ocean
since 2000**



Deployment opportunities for other platforms – surface drifters



**883 surface drifters
deployed from ships
of the XBT network
in the Atlantic Ocean
since 2000**

Status of the XBT Network

- **Scientific and operational justification and uses**
- **Proper implementation and partnerships**
- **Timely data distribution and quality control**
- **% implementation varies depending on metrics used**

