E-SURFMAR Report

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DBCP 32 La Jolla (USA) – 17-21 October 2016

E-SURFMAR

EUMETNET is a grouping of
31 European Meteorological Services

19 participate in E-SURFMAR

Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, FYROM, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, Malta, Montenegro,Netherlands, Norway, Poland, Portugal, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom

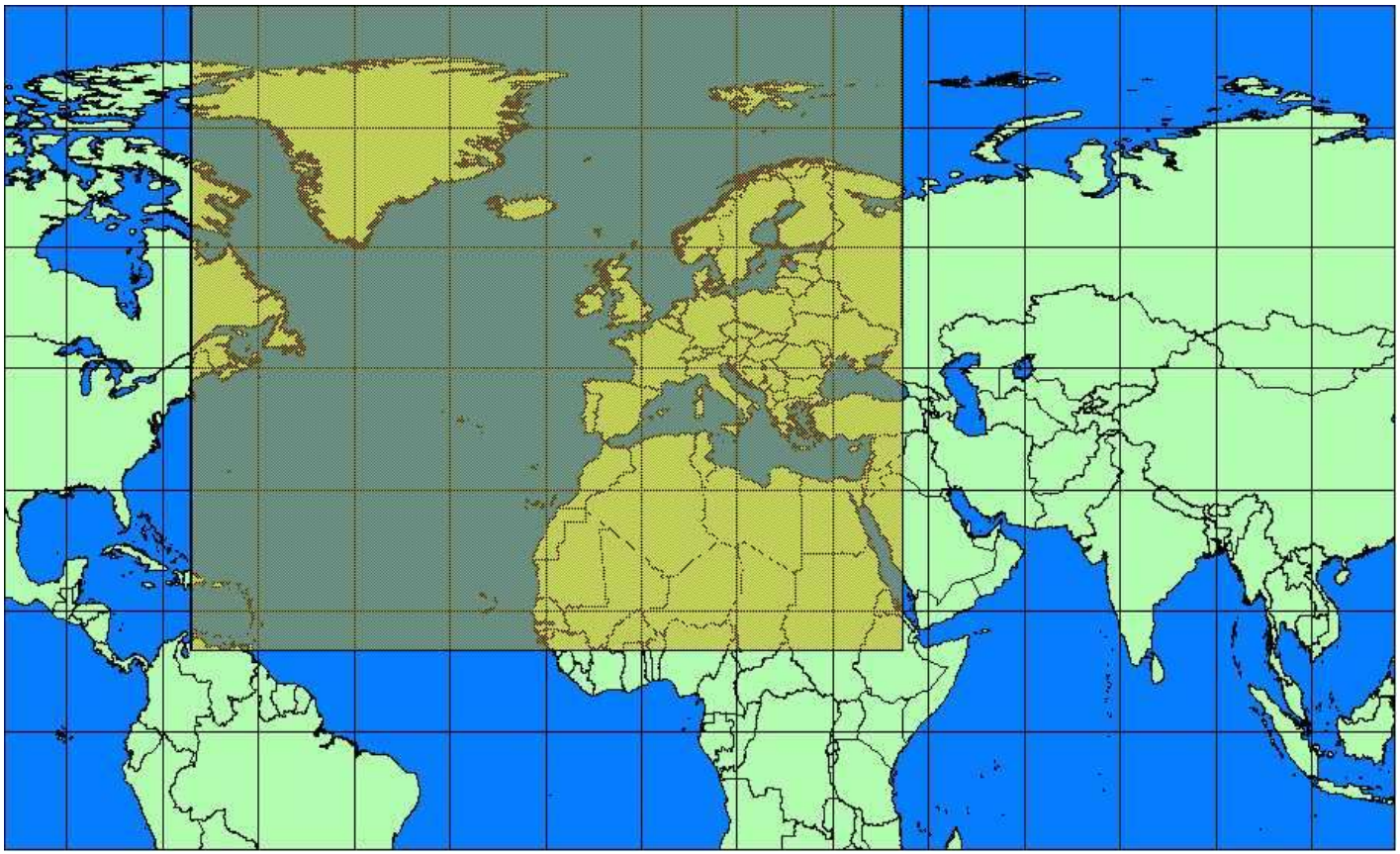
- **Objectives**
  - to **coordinate**, **optimise** and progressively **integrate** the European activities for surface observations over the sea
    in support of weather forecasting and climate monitoring

- **Two components**
  - Conventional Voluntary Observing Ships (VOS)
    or ships equipped with Automated Weather Stations (S-AWS)
  - Drifting and Moored Data Buoys

Cooperations

- **E-SURFMAR**
  - contributes to:
    - the World Weather Watch of WMO - all observations are reported onto its Global Telecommunication System (GTS) in real time
    - and the Copernicus marine environment monitoring service (EU) especially with a link to CORIOLIS, thereby bridging to the oceanographic community
  - works closely with the Joint WMO-IOC Commission of Oceanography and Marine Meteorology (JCOMM) Data Buoy Cooperation Panel (DBCP) and the Ship Observation Team (SOT).
  - cooperates with NOAA and the Meteorological Service of Canada, as well as with Puertos del Estado and other European oceanographic agencies among MOON members

E-SURFMAR area



Data Buoys

Data Buoy Management

E-SURFMAR is responsible for the European meteorological data buoys and is supported by :

- Expert Team – Data Buoy (ET-DB) took over in 2013 the attributions of Data Buoy Technical Advisory Group (DB-TAG) - is an action group of the DBCP

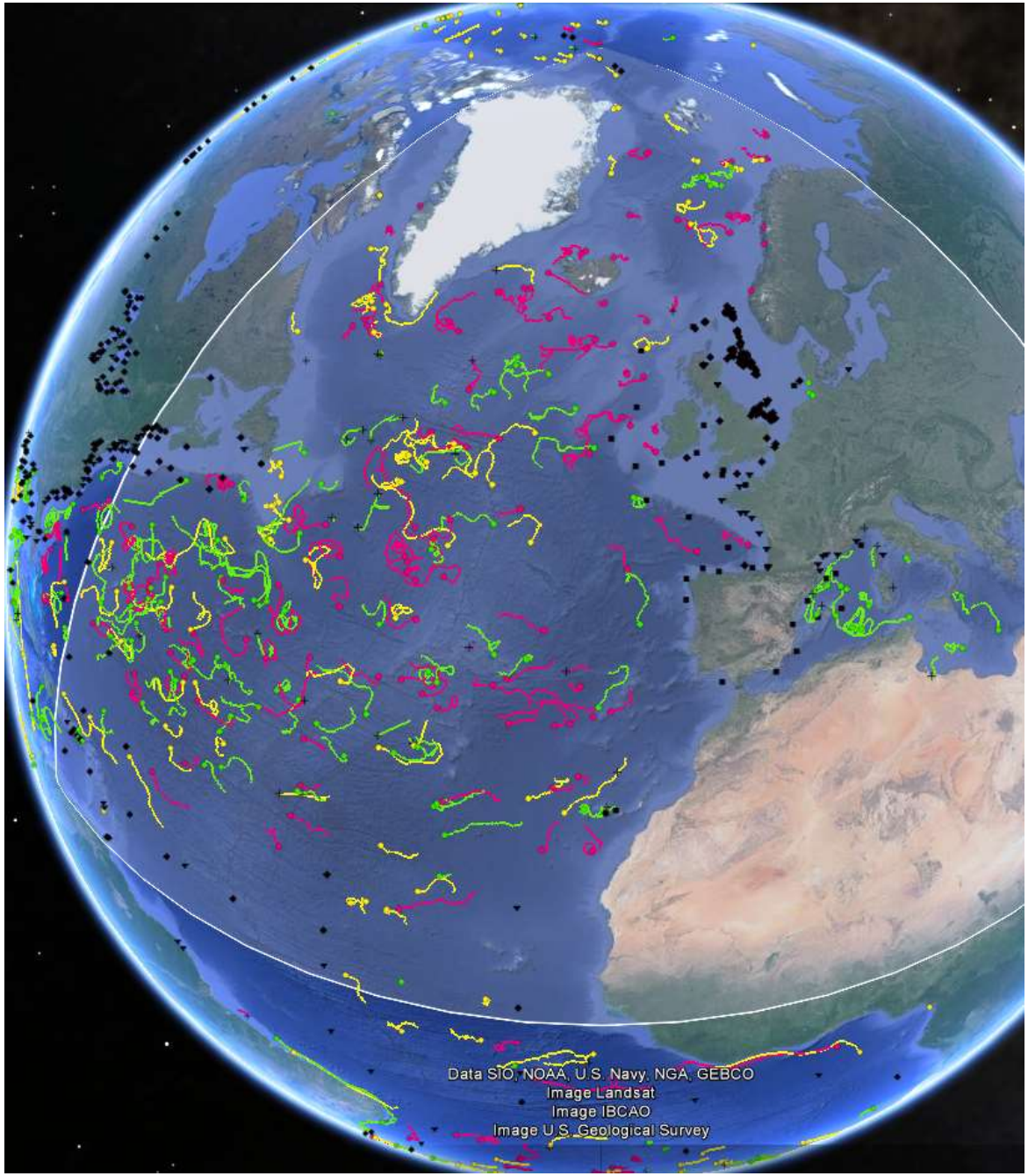
  Meetings:
  January (Geneva) and May 2005 (Hamburg)
  June 2006 (Galway)
  May 2007 (Larnaka)
  May 2008 (Reykjavik)
  May 2009 (Southampton)
  May 2010 (Madrid)
  May 2011 (Héraklion)
  May 2012 (Las Palmas)
  June 2013 (Oslo)
  May 2014 (Exeter)
  May 2015 (Rome)
  April 2016 (Hamburg)

- Data Buoy Programme Manager

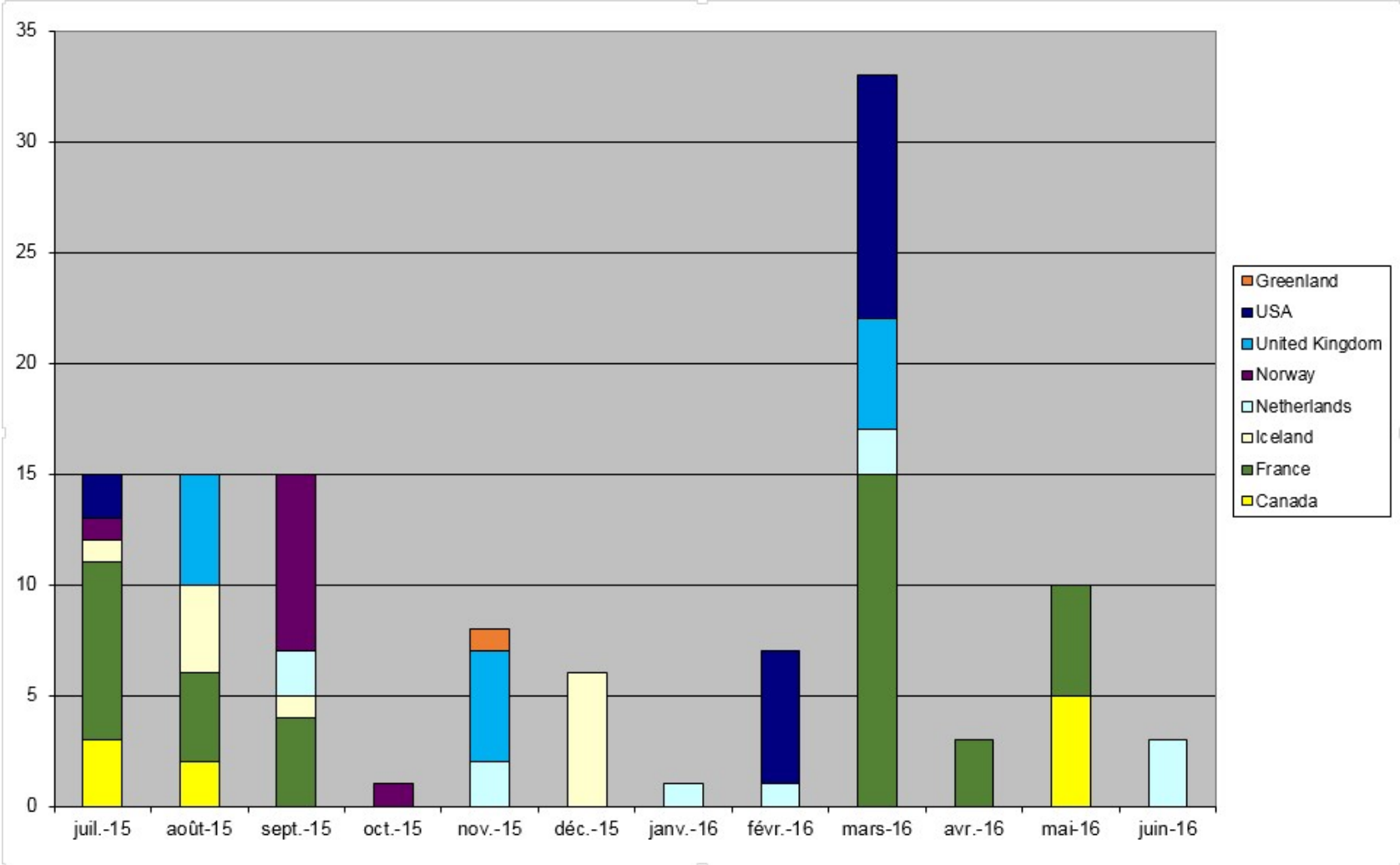
Network status

- E-SURFMAR
- Others
- SST only
- *(moored buoys)*

June 2016



Drifting buoys deployed (July15-June16) (117 units, 92 last year)

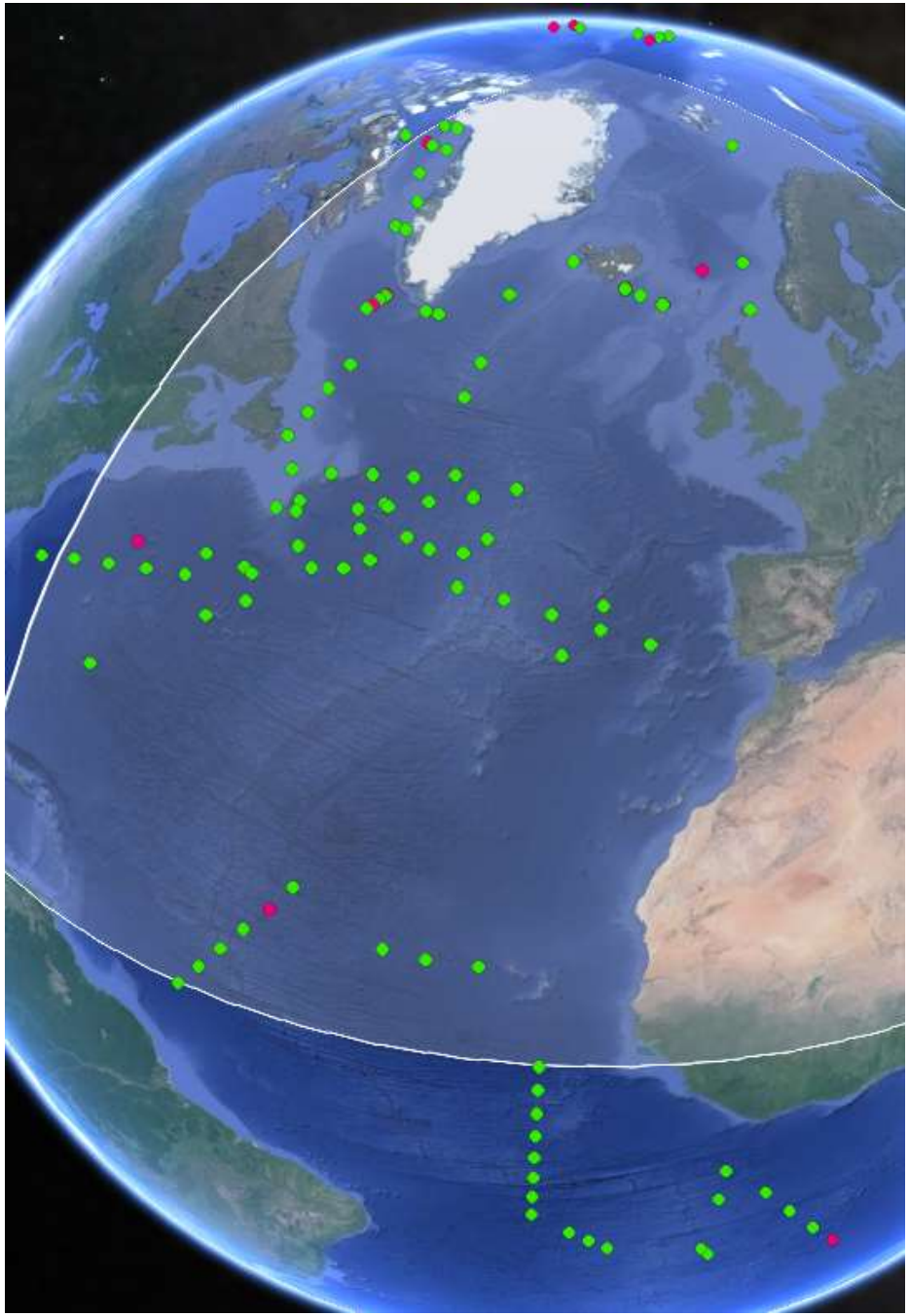


Deployment locations (July15-June16)

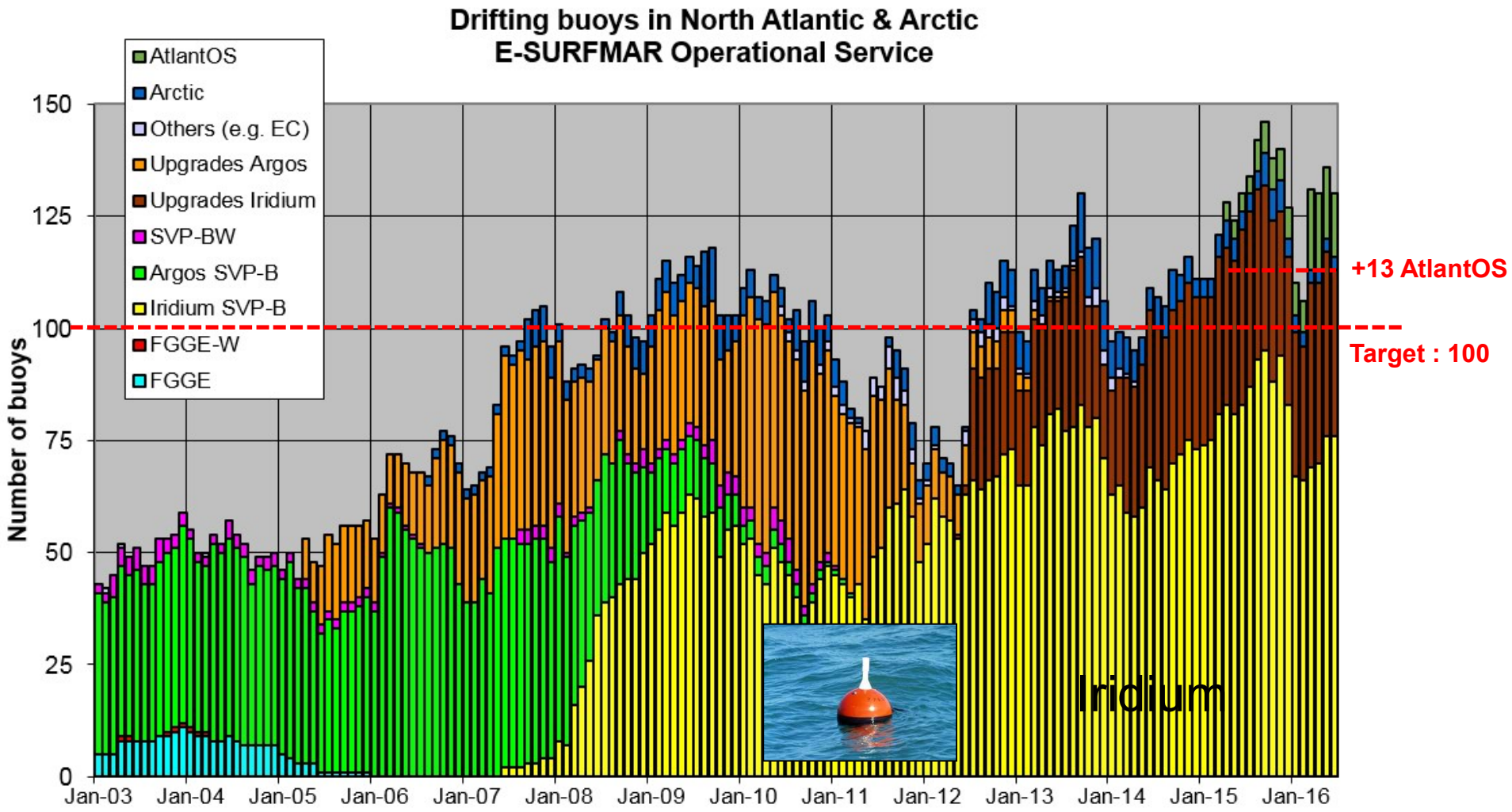
Legend :

- Drifting buoy OK
- Drifting buoy failed at deployment

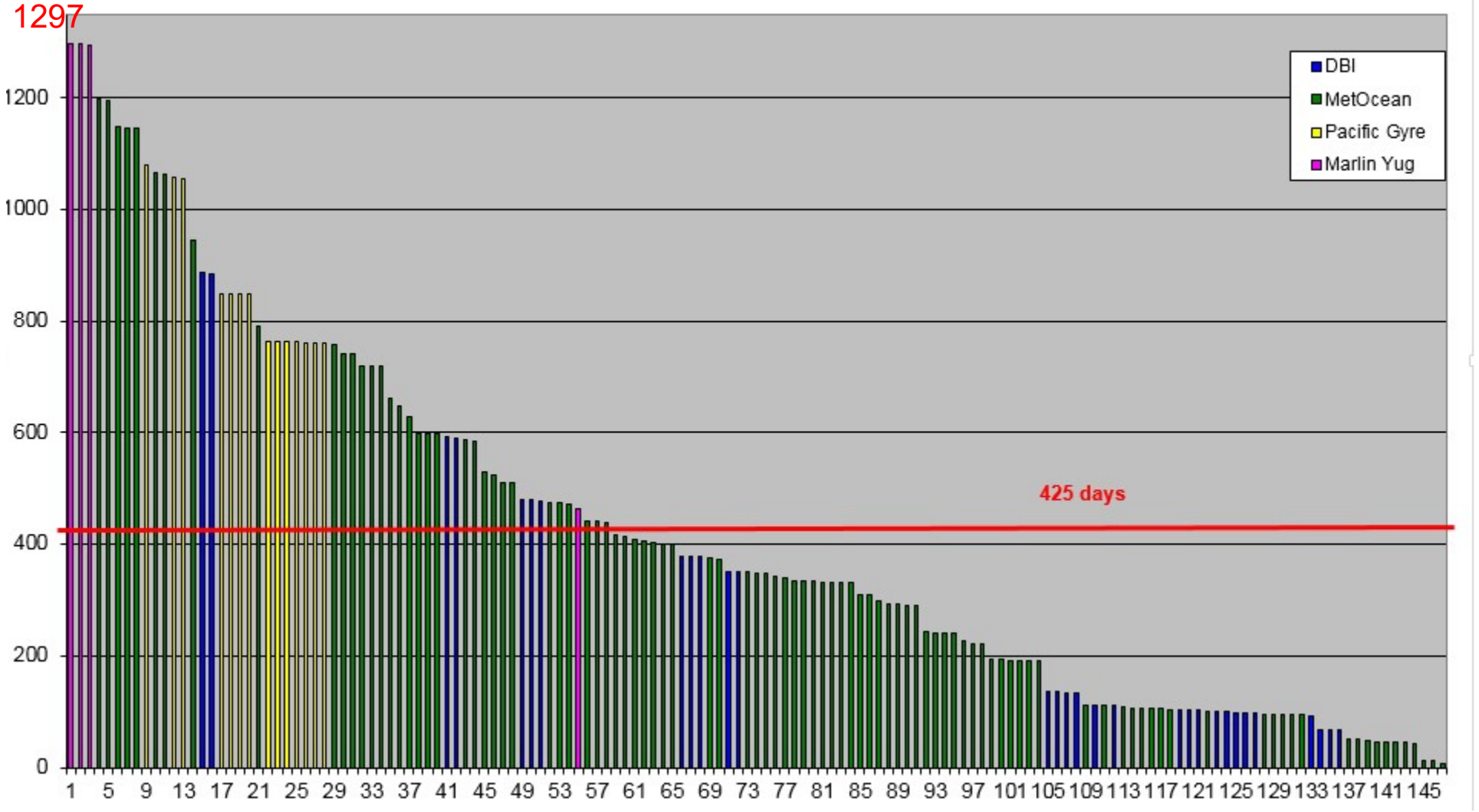
117 buoys deployed
10 failed at deployment



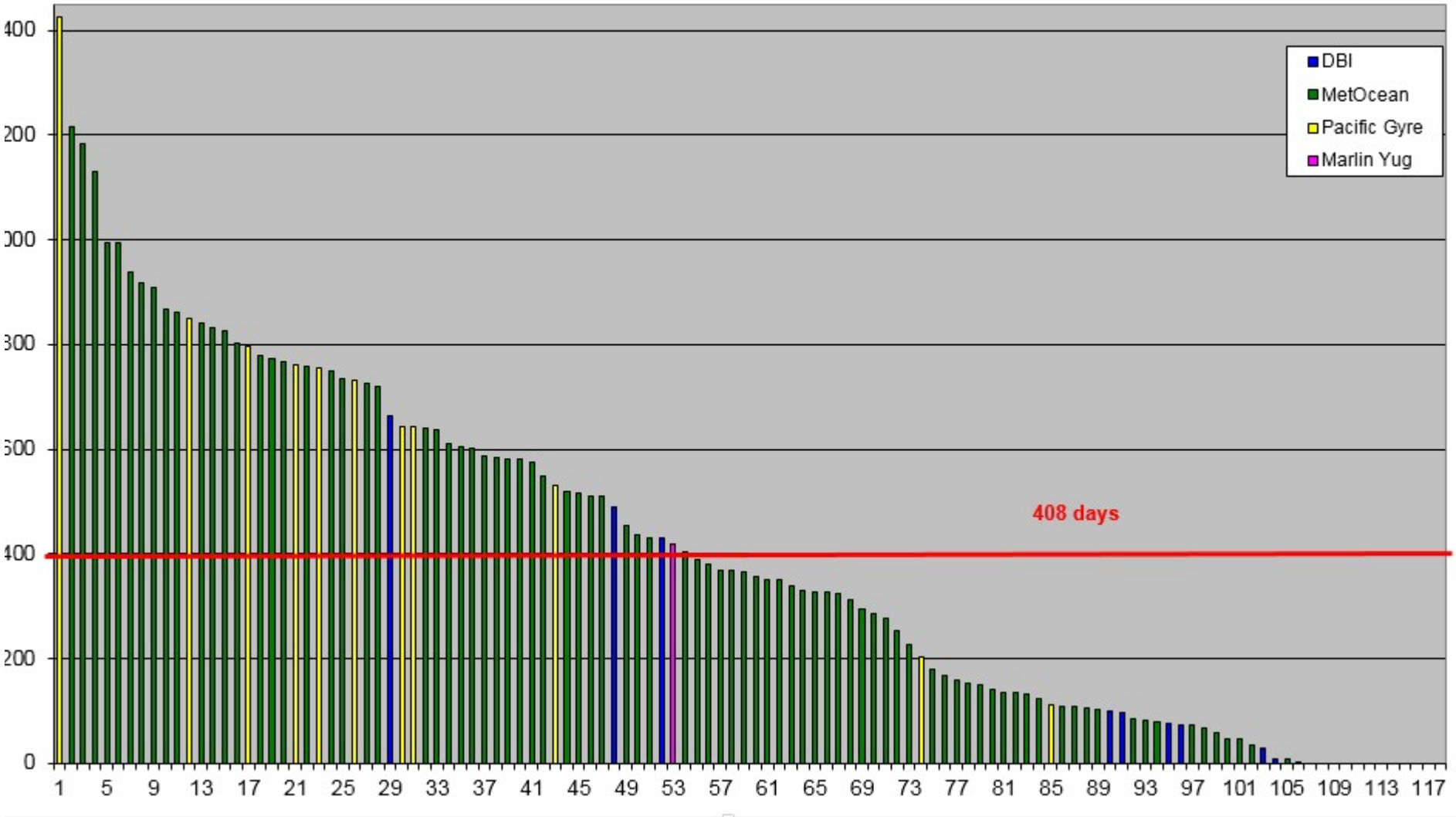
Drifting Buoys (number of buoys in operation)



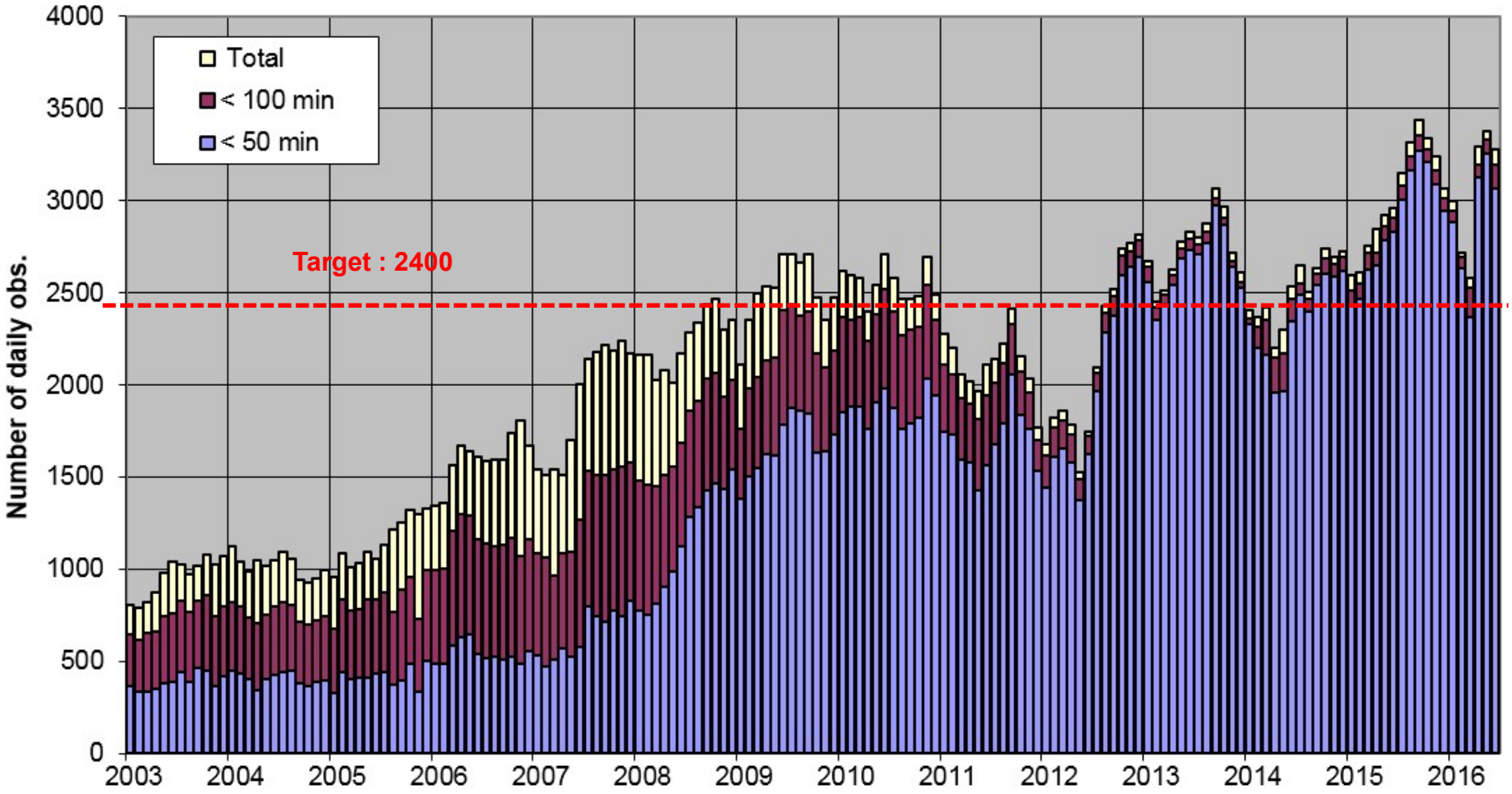
Age of the network (148 buoys, 133 last year)



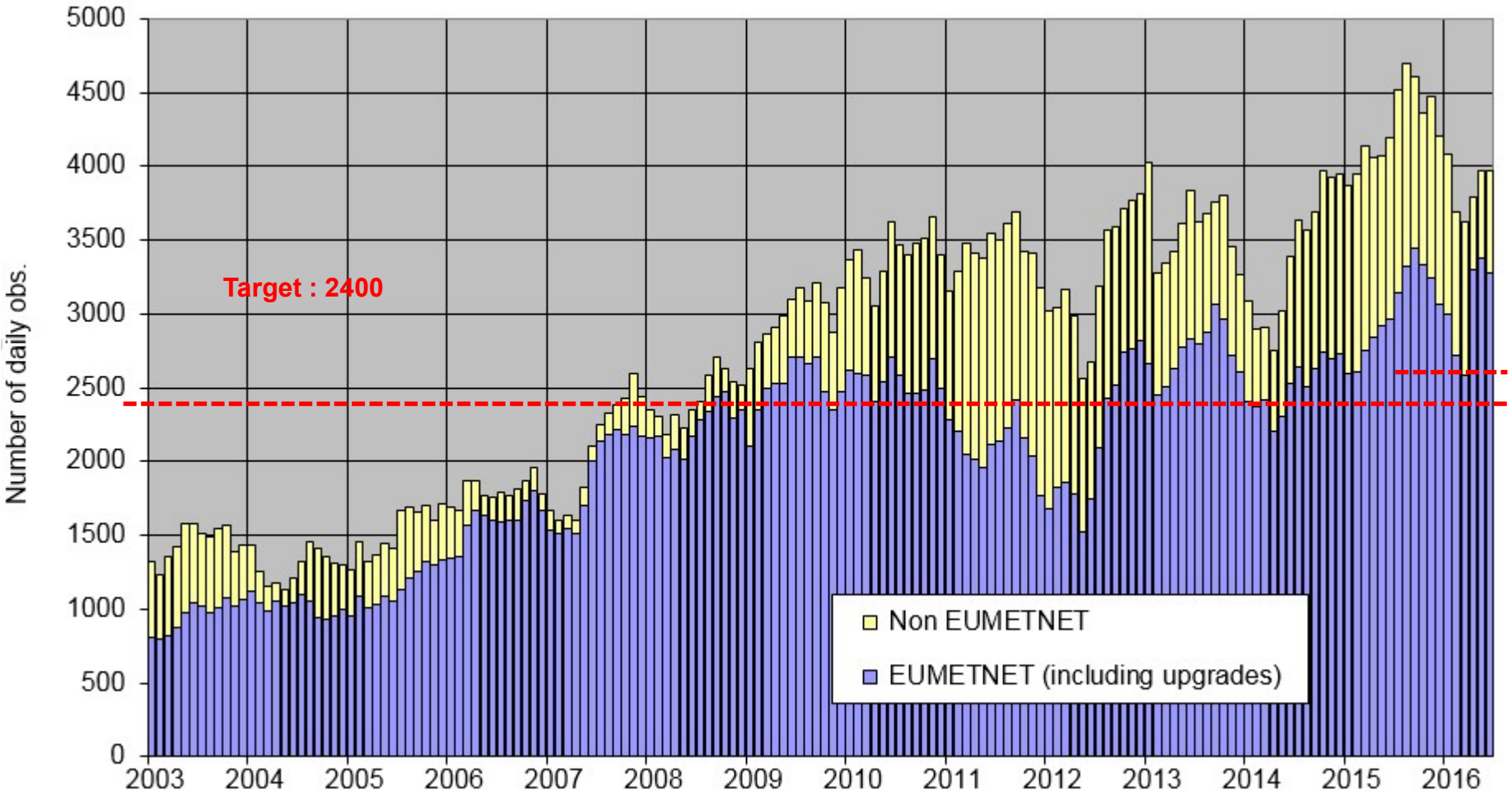
Average lifetime of buoys (AP) (118 units, 73 last year)



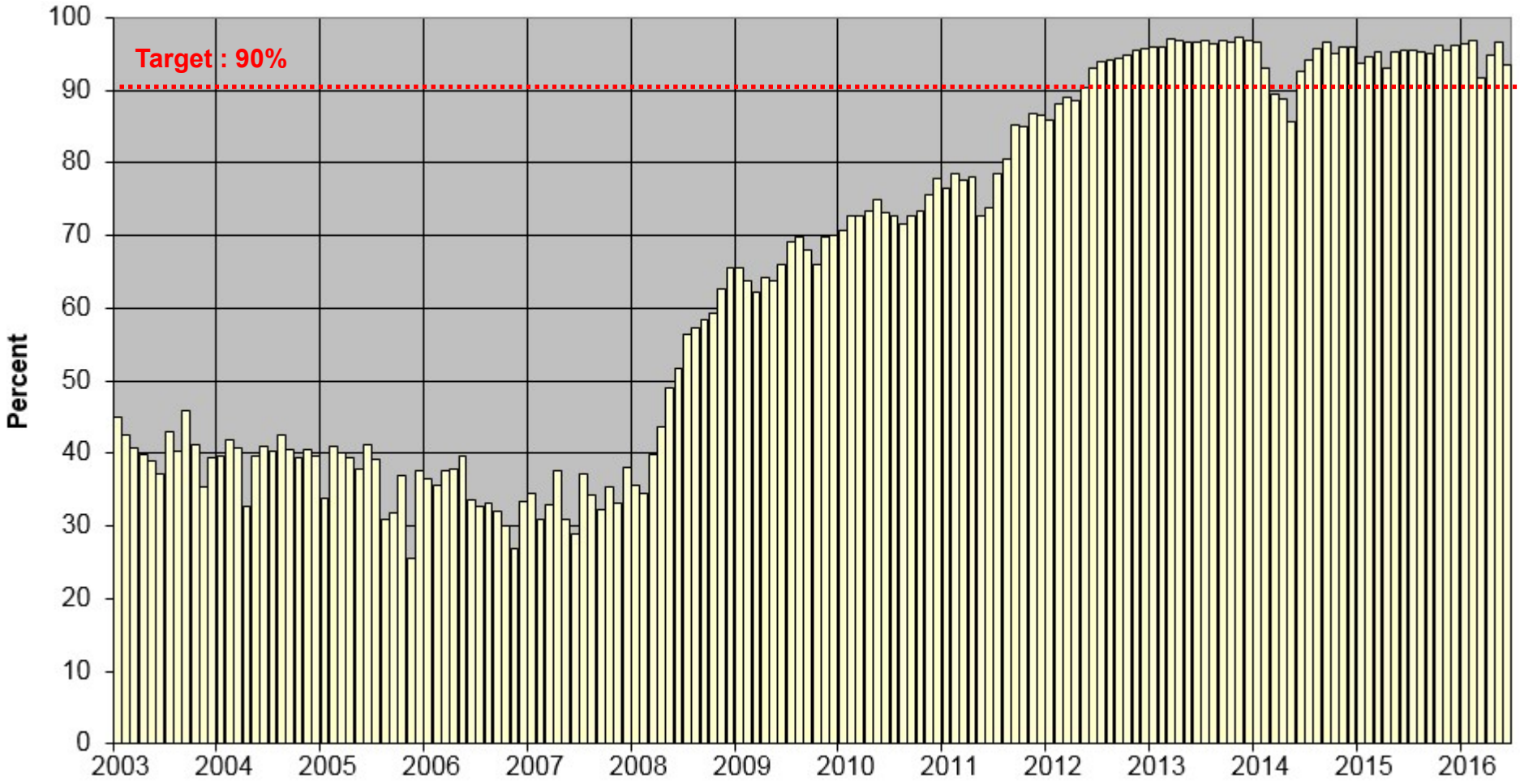
Drifting Buoys Number of observations



Drifting Buoys (Data availability)



Drifting Buoys (Data timeliness % < 50 min)



Contribution to E-SURFMAR north area

- Contribution through IABP

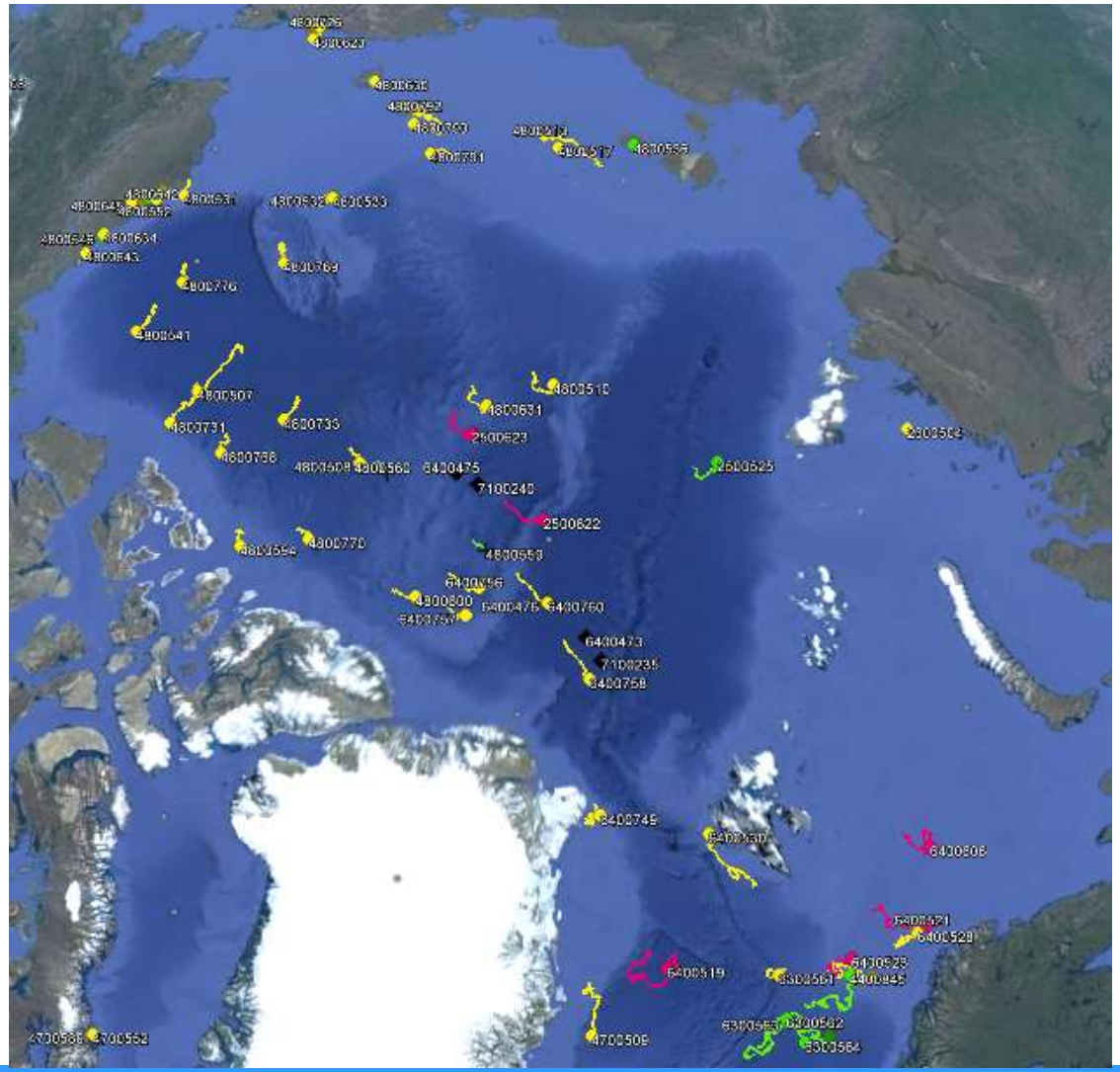
-2 IcexAir in 2006,
-3 ICEB buoys in 2007
-4 SVP-B (2 Argos – 2 Iridium) in 2007
-5 SVP-B (Argos) in 2008
-15 SVP-B (Argos) in 2009
-extra free buoys from 2009 (10 to MetNo + 2 to NOAA) in 2010
-3 New ICEB (2 Argos, 1 Iridium) + 12 SVP-B (Iridium) in 2011
-22 SVP-B (Iridium) in 2012
-13 SVP-B (Iridium) in 2013
- 6 SVP-B (Iridium) in 2014
- 3 SVP-B (Iridium) in 2015
- 8 SVP-B (Iridium) in 2016 (4 failed at deployment)

North E-SURFMAR area and Arctic

June 2016

All buoys on the map are measuring **air pressure** at least

- E-SURFMAR
- Others
- SST only
- *(moored buoys)*



AtlantOS

- **AtlantOS** is a consortium formed in response to a Horizon2020 call: d*eveloping in-situ Atlantic Ocean Observations for a better management and sustainable exploitation of maritime resources.*

- **E-SURFMAR is engaged in AtlantOS and responsible for the *Surface Drifters***

Started on 1 April 2015, 3 targets enhancements:

- **Enhance geographical coverage:**
  - 13 SVP-B deployed every year, for 4 years, in Tropical Atl. area.
- **Enhance multivariate sampling:**
  - R&D towards a cost-effective salinity drifter (with other partners)
- **Enhance vertical sampling:**
  - Research on SVP-BTC by CNRS.

AtlantOS

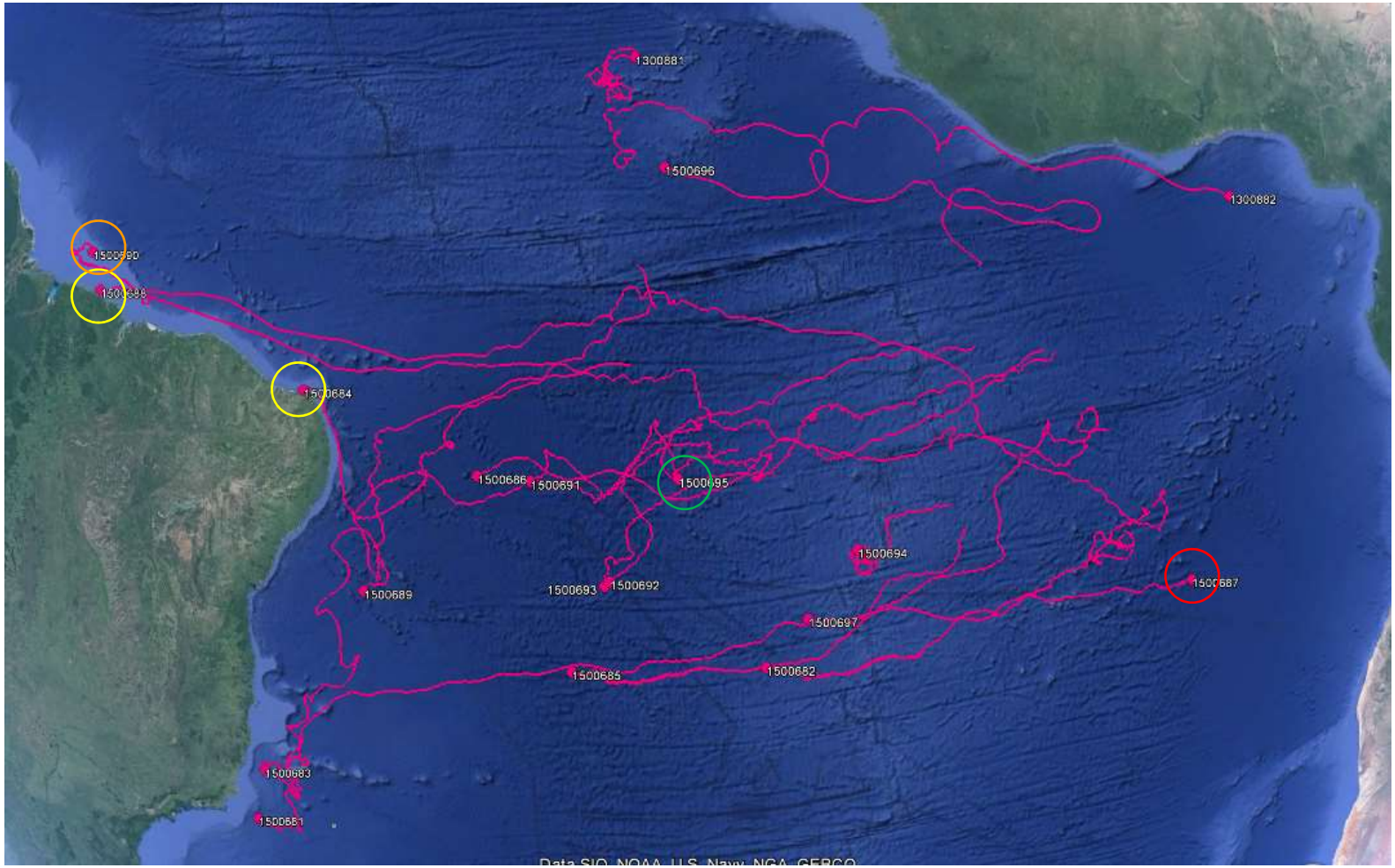
8 SVPB launched in 2015
11 SVPB launched Q1 2016
(3 more to be launched Nov. 2016)

2 ashore in Brazil
1 picked-up by a fisherman in Brazil
1 failed at deployment
1 ceased

14 buoys still alive

AtlantOS

2 ashore in Brazil
1 picked-up by a fisherman in Brazil
1 ceased 1 failed

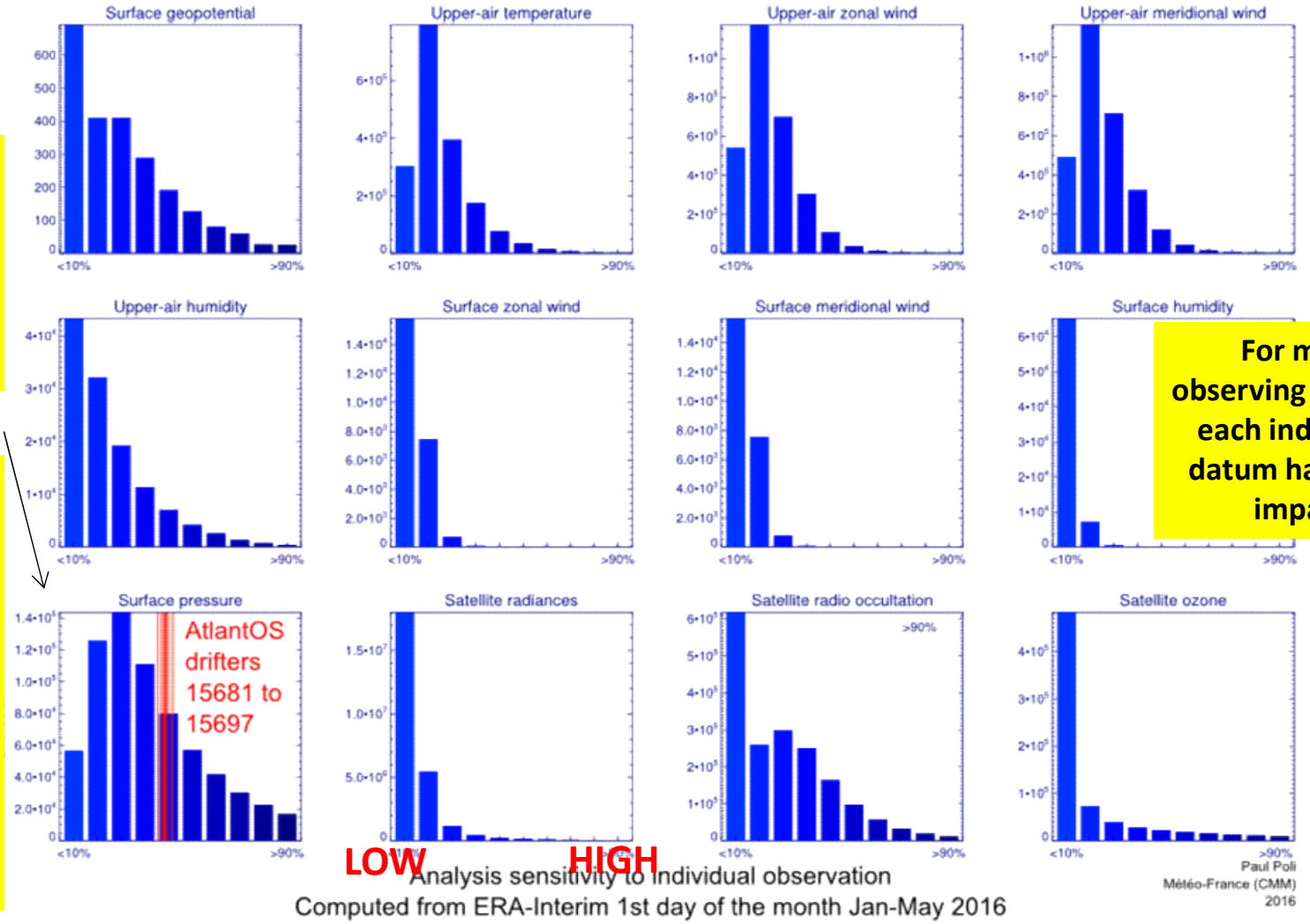


Long-term sustainability of such deployments?

- Preliminary impact results from ERA-Interim

Surface pressure observations are the most impacting, per datum

Among these, the AtlantOS drifters are above the norm (because they observe regions with few other Sfc.P obs around)



For most observing systems, each individual datum has a low impact

Environmental responsibility

#1 question from outsiders when they hear about drifting buoys

Important element when engaging with shipping companies for deployments etc…

Recovery and refurbishment whenever possible

For about 2 years, drifting buoys are recovered (generally without drogue) by CMM (MF) or other European NWS.

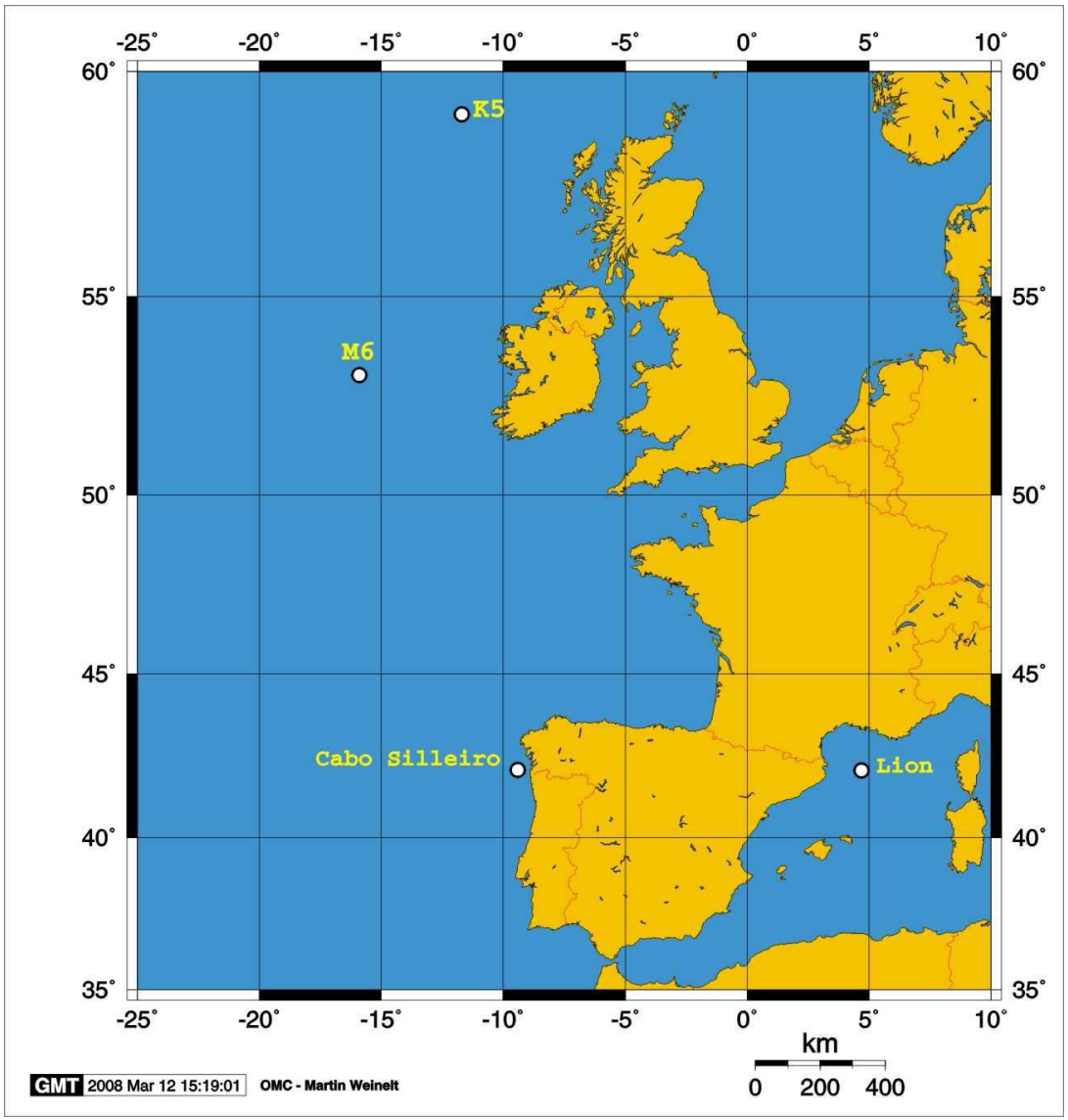
If buoy is undamaged, batteries are refurbished and drifter is:

- redeployed,
- used as « deck-drifter » on opportunity ships,
- used as training tool for capacity building

CMM : 15 (7 re-deployed onboard ship)
Norway : 2
Iceland : 3

E-SURFMAR Moored Buoys

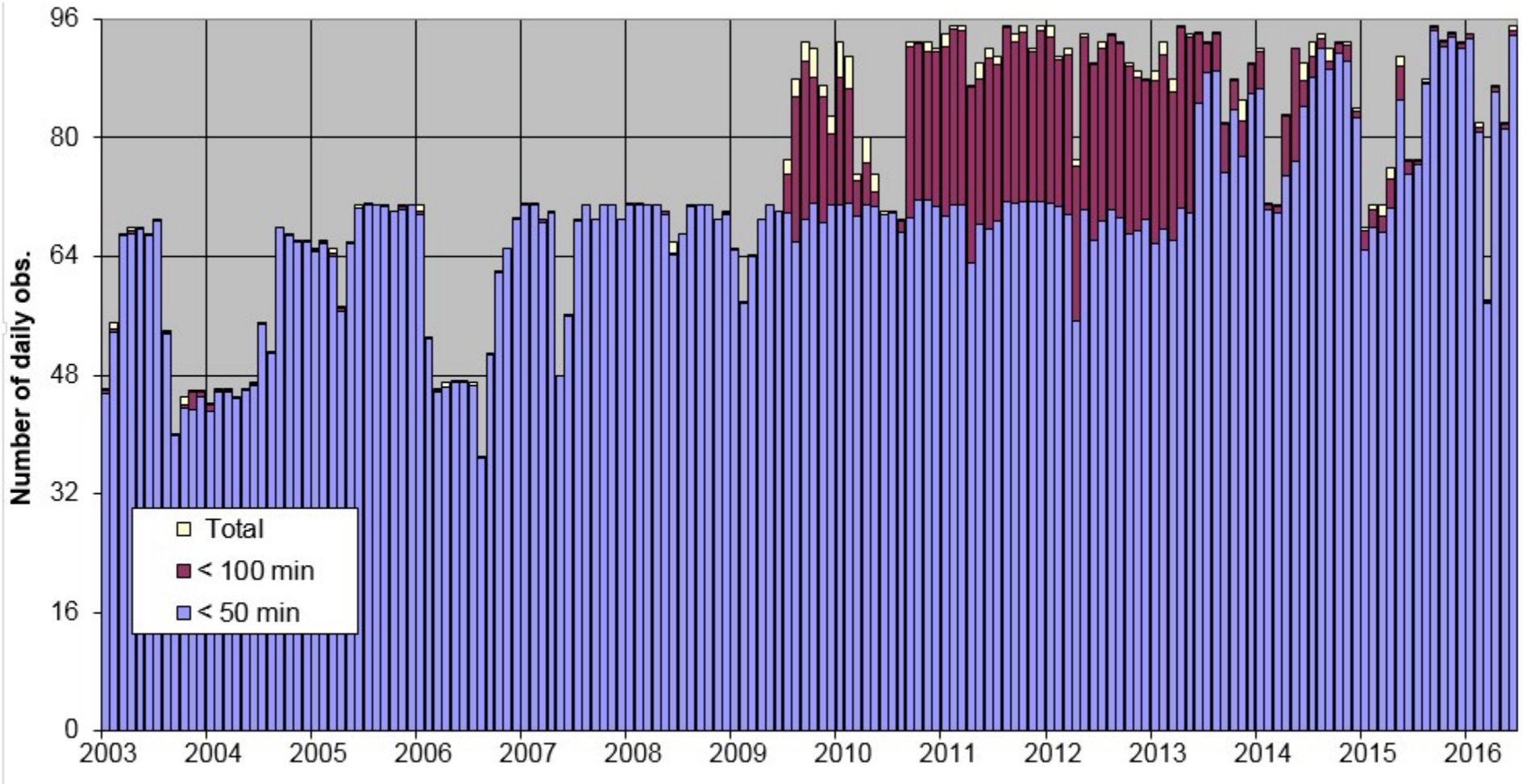
- K5 operated by the Met Office
- M6 operated by IMI and Met Eireann
- Cabo Silleiro operated by Puertos del Estado
- Lion operated by Meteo-France



E-SURFMAR Moored Buoys

WMO	Name	Type	Country	GTS reports
6400045	K5	K-pattern	UK	FM-13 SHIP FM- 94 BUFR (*TM308009)*
6200095	M6	K-pattern	Ireland	FM-94 BUFR (*TM308009)*
6200084	Cabo Silleiro	SeaWatch	Spain	FM-94 BUFR (old template)
6100002	Lion	K-pattern	France	FM-94 BUFR (*TM315008)*

Moored Buoys data availability (E-SURFMAR)



Data buoys reporting

- Monthly report
- Annual report
- Working area of the E-SURFMAR website based on mediawiki, every participant to the programme can easily collaborate on its content

http://esurfmar.meteo.fr/

- Public website

http://www.eumetnet.eu/

http://www.meteo.shom.fr/qctools/

Data Quality Control Tools