

# E-SURFMAR Report

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# E-SURFMAR

## EUMETNET members

### 31 European Meteorological Services.

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

19 out of them are participating in E-SURFMAR

EUMETNET is an EIG from 2009

## Objectives

- to coordinate, optimise and progressively integrate the European activities for surface observations over the sea in support of Numerical Weather Prediction (NWP)

## Two components

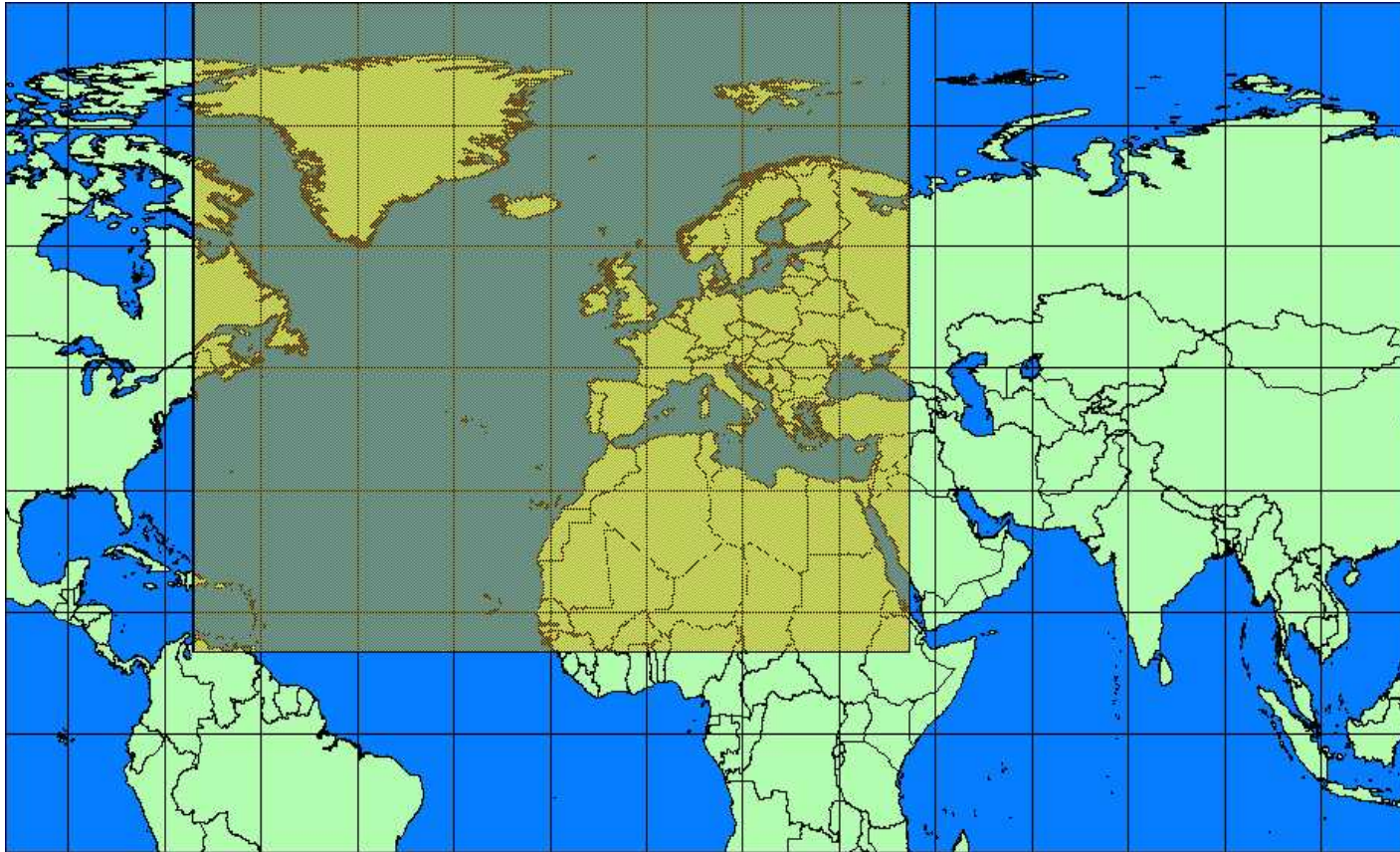
- Conventional Voluntary Observing Ships (VOS)  
or ships equipped with Automated Weather Stations (S-AWS)
- Drifting and Moored Data Buoys

# Cooperations

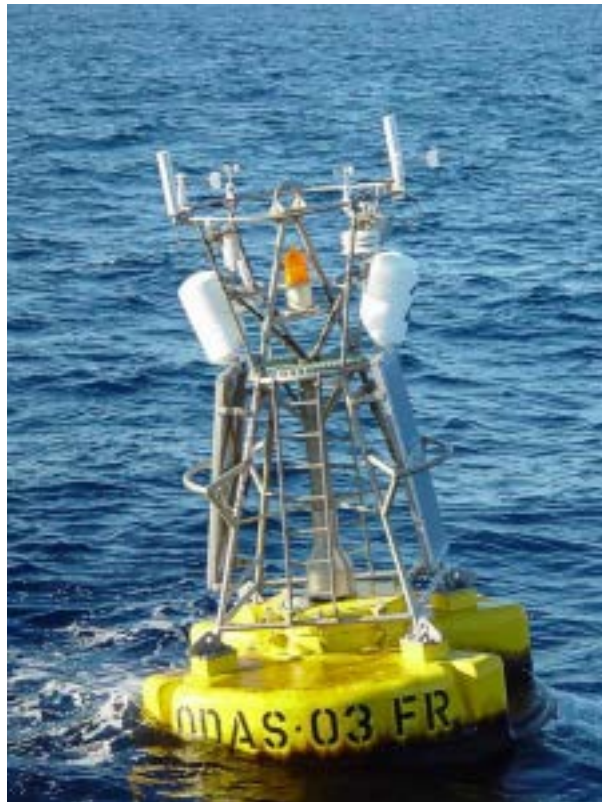
## ■ E-SURFMAR

- contributes to:
  - the World Weather Watch of WMO - all observations are reported onto its Global Telecommunication System (GTS) in real time
  - and the Copernicus (ex GMES) Marine Core Service
- works closely with the JCOMM Data Buoy Cooperation Panel (DBCP) and the JCOMM Ship Observation Team (SOT). JCOMM is the Joint WMO-IOC Commission of Oceanography and Marine Meteorology.
- cooperates with NOAA and the Meteorological Service of Canada, as well as with Puertos del Estado and other European oceanographic agencies (MOON - Mediterranean Operational Oceanography Network members)

# E-SURFMAR area



# Data Buoys



# Data Buoy Management

E-SURFMAR is responsible for the European meteorological data buoys

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)

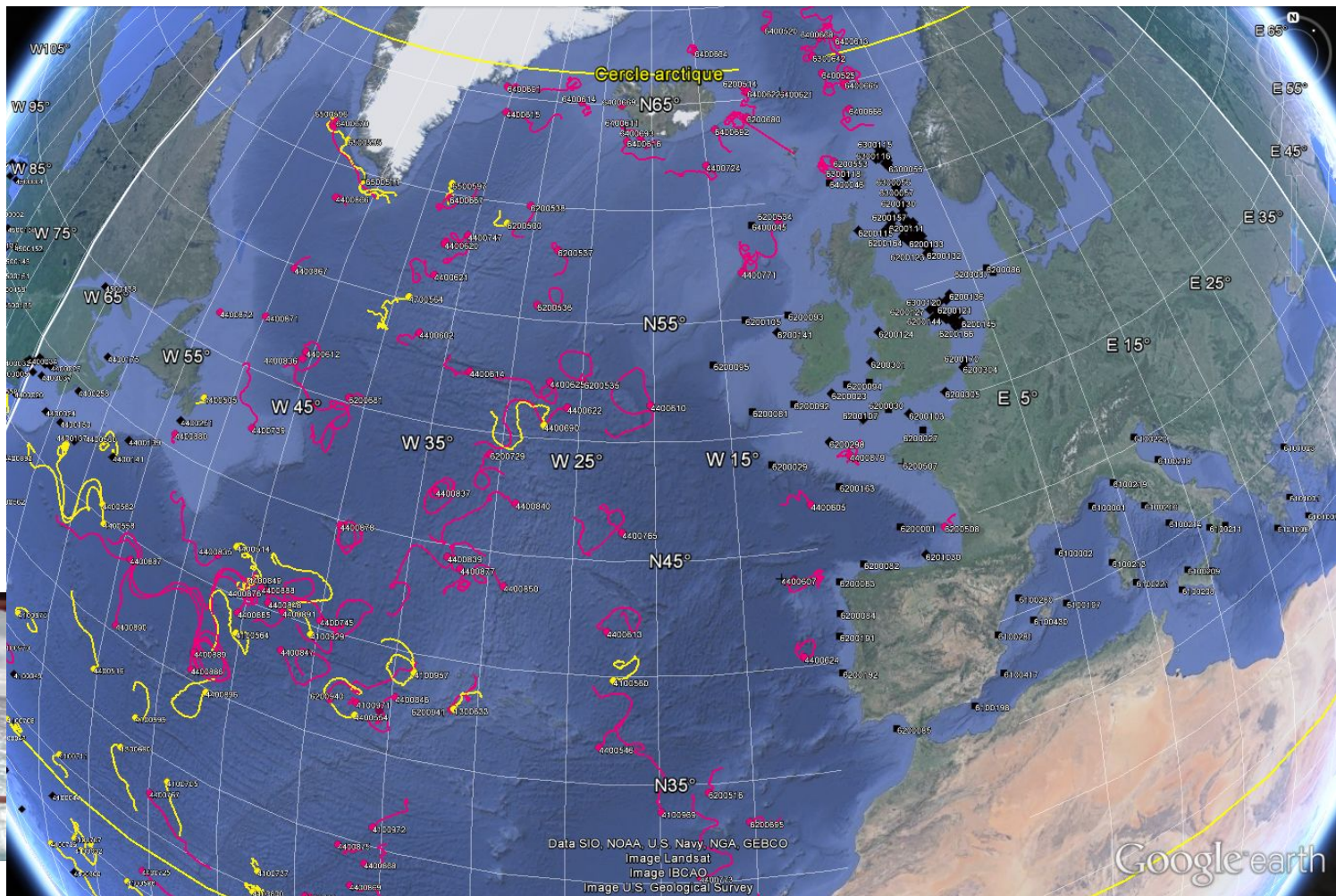
May 2014 (Exeter)

Data Buoy Programme Manager

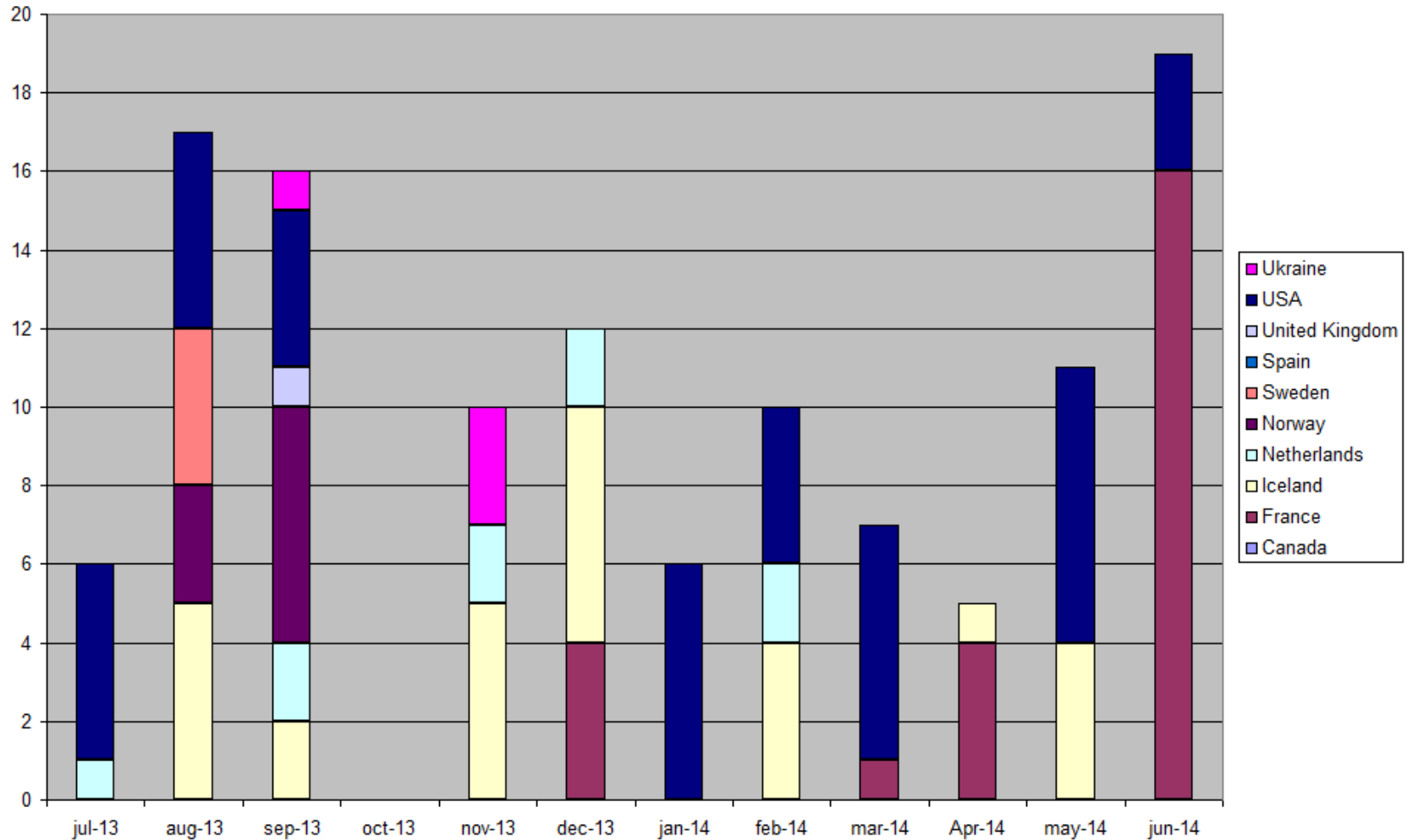
# Network status

- E-SURFMAR
- Others
- ◆ (moored buoys, offshore platforms)

Sept 2014



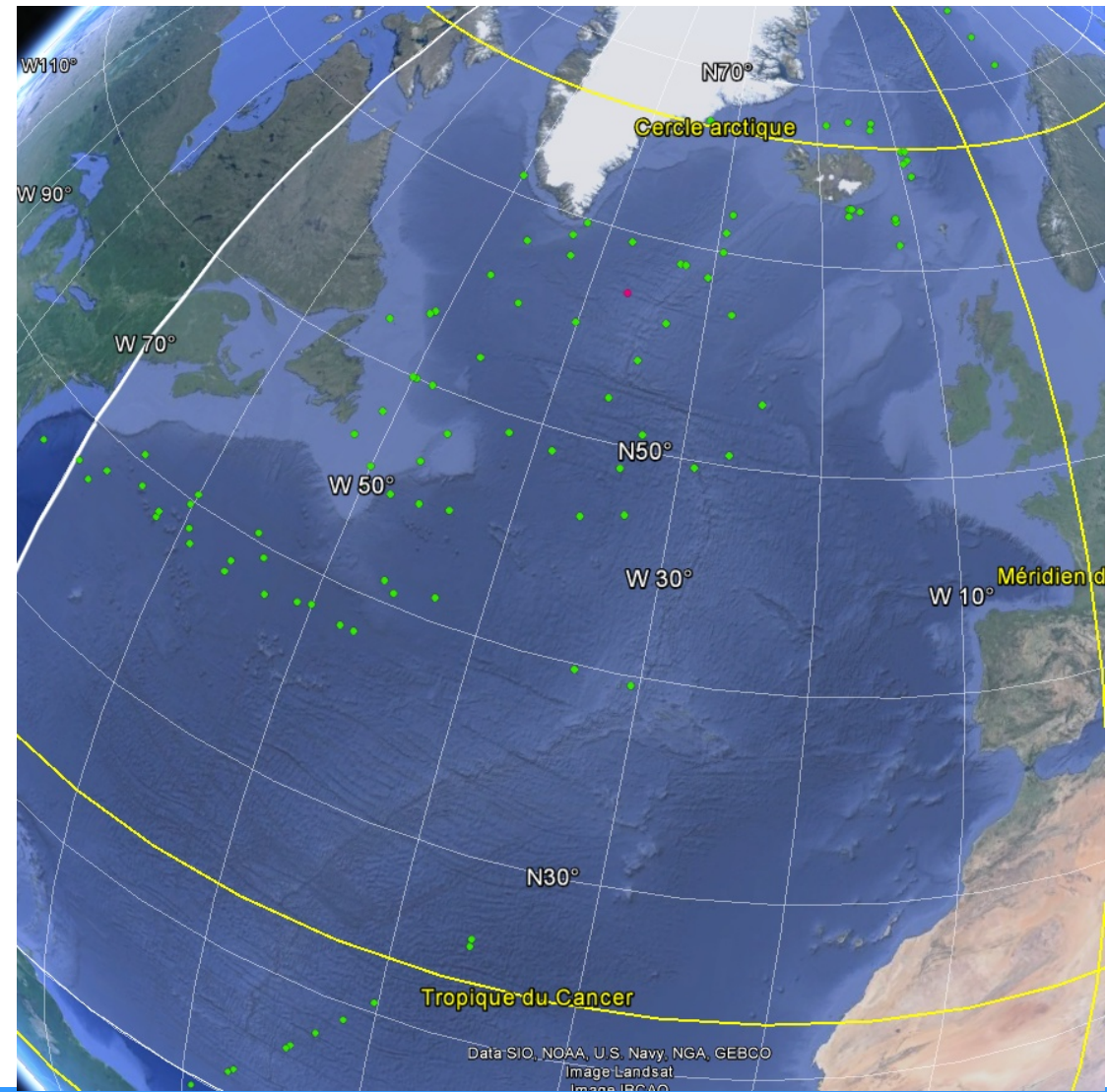
# Drifting buoys deployed (July13-June14) (119 units)



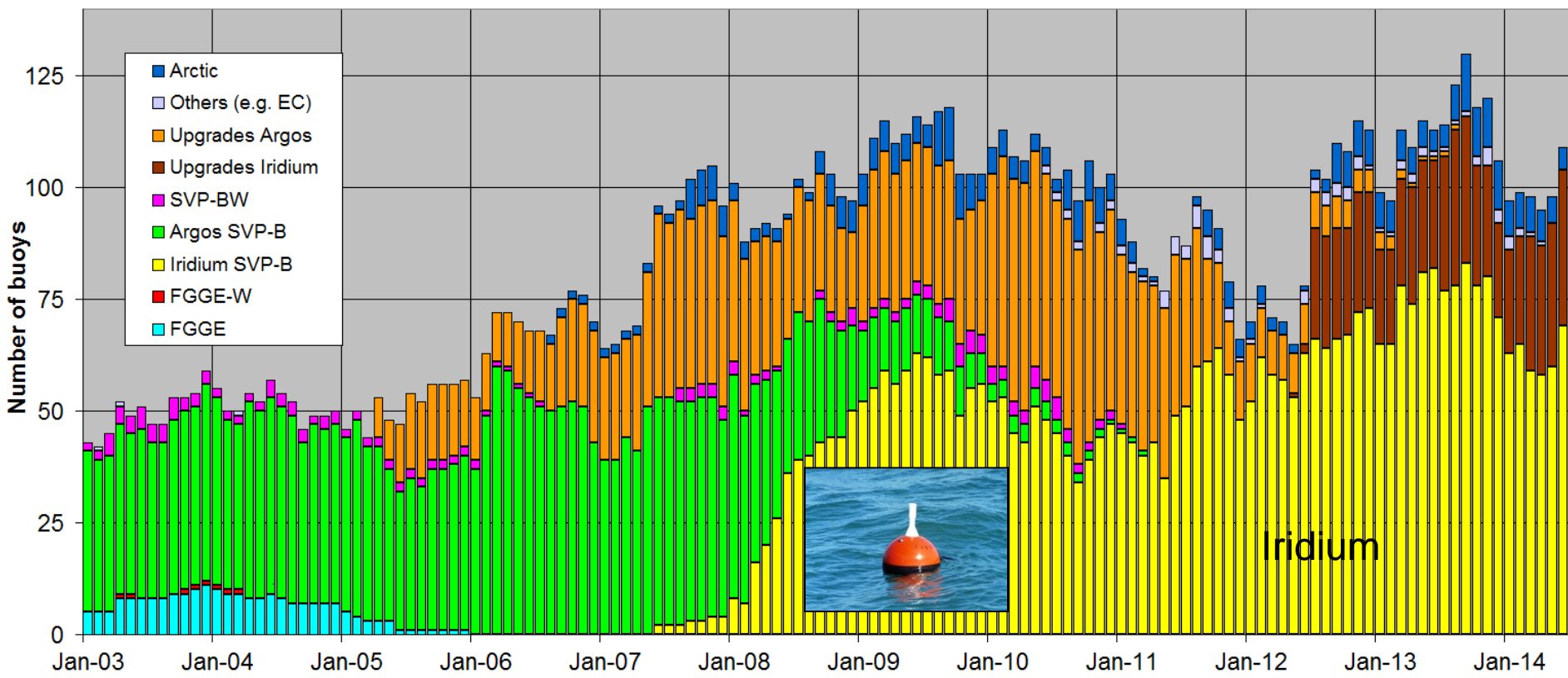


# Deployment locations

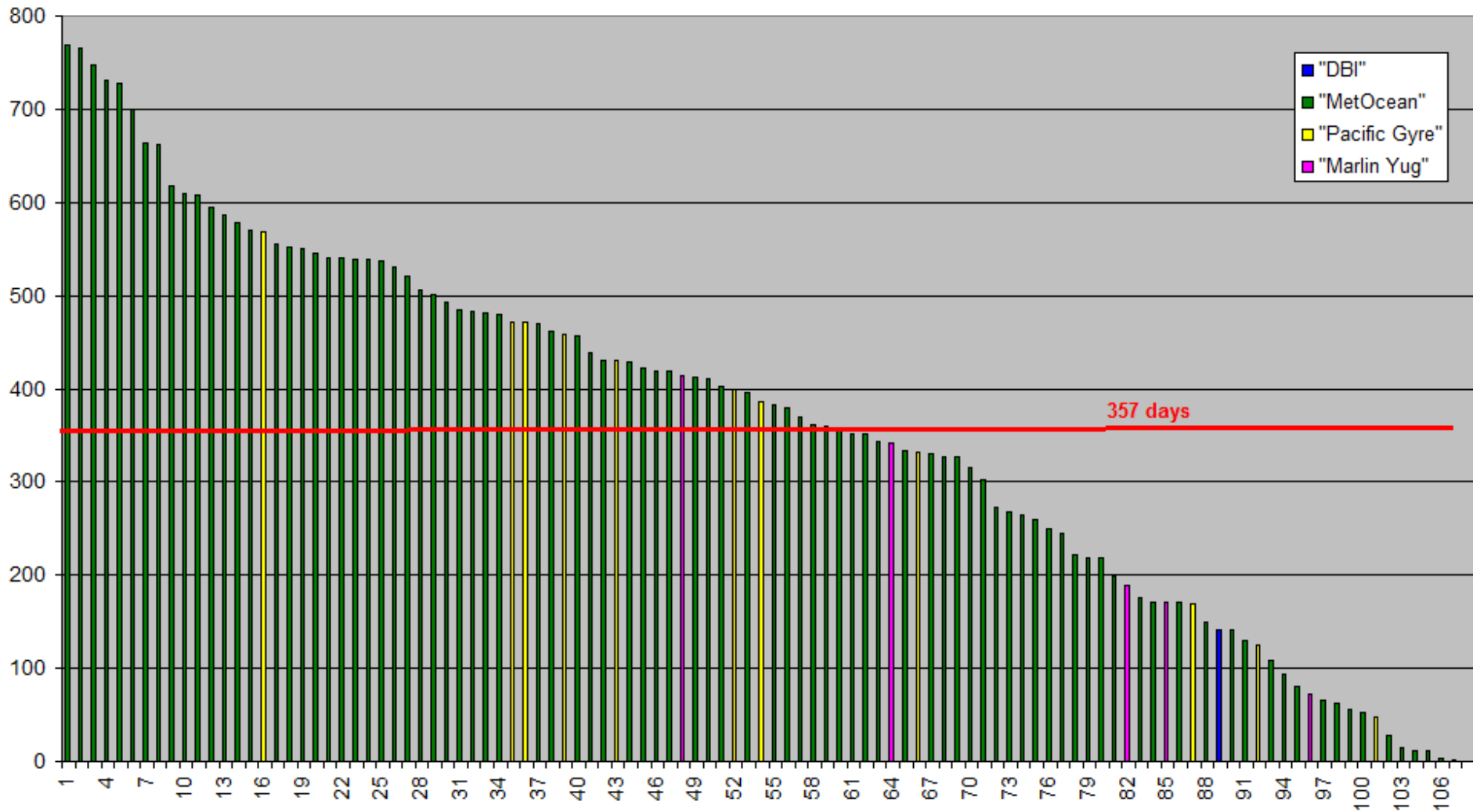
- Legend :**
- Drifting buoy OK
  - Drifting buoy failed at deployment



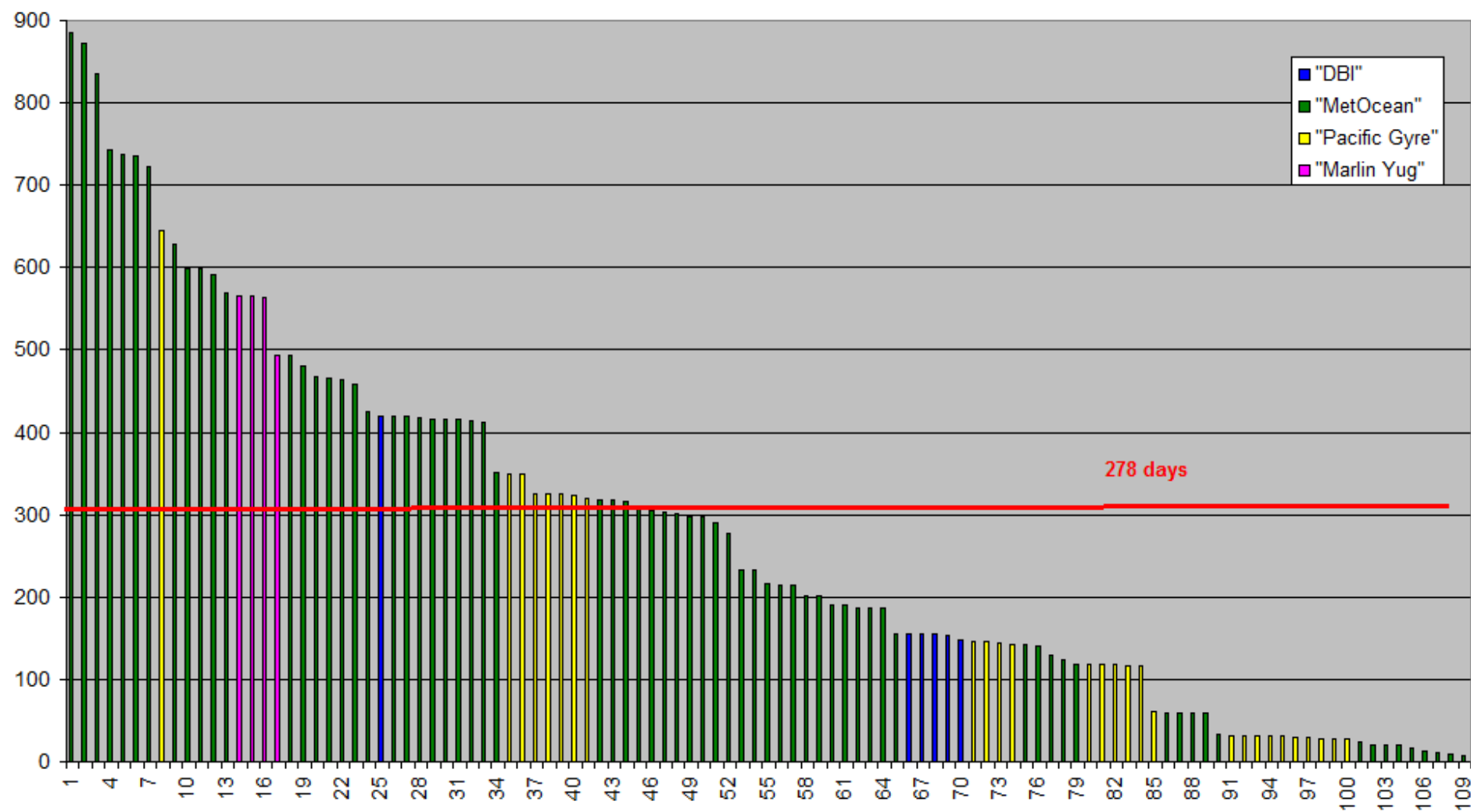
# Drifting Buoys (number of buoys in operation)



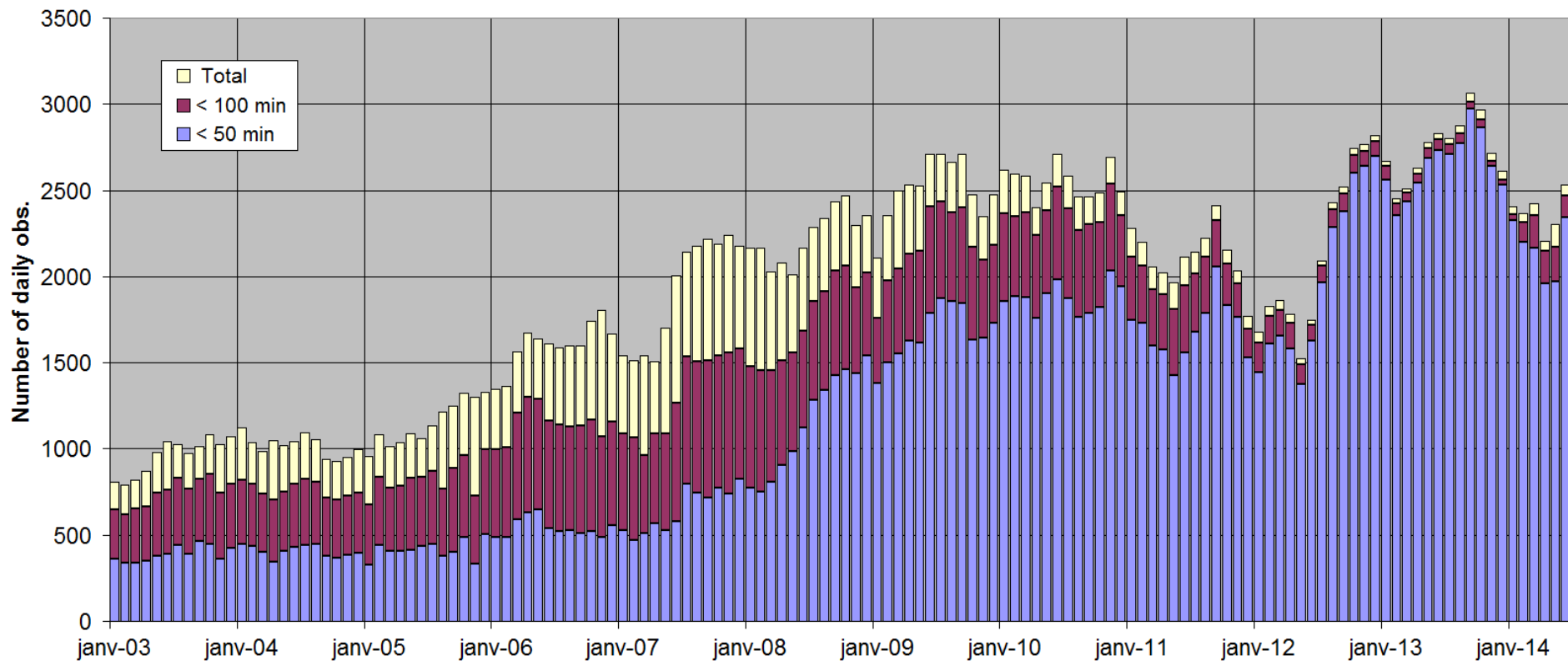
# Average lifetime of buoys (AP) (108 units, 93 last year)



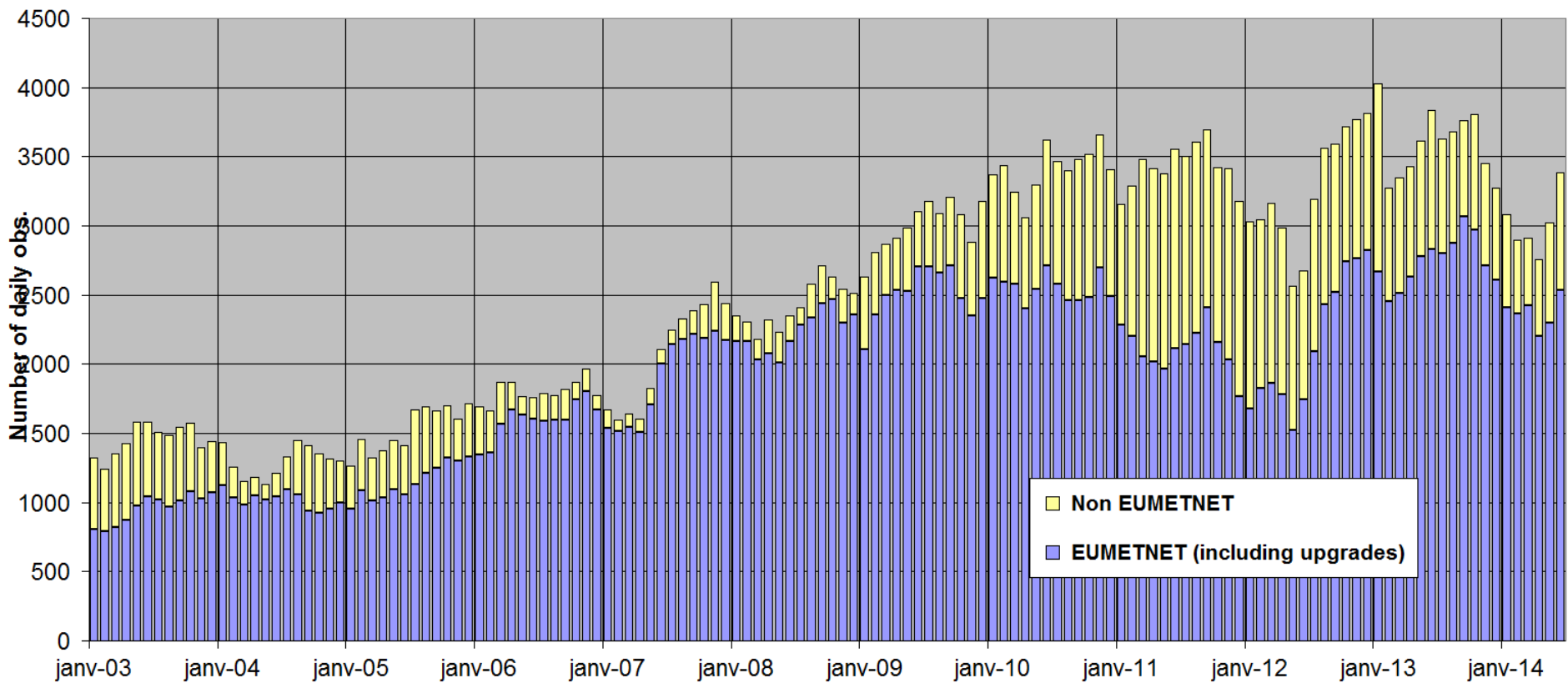
# Age of the network (109 buoys)



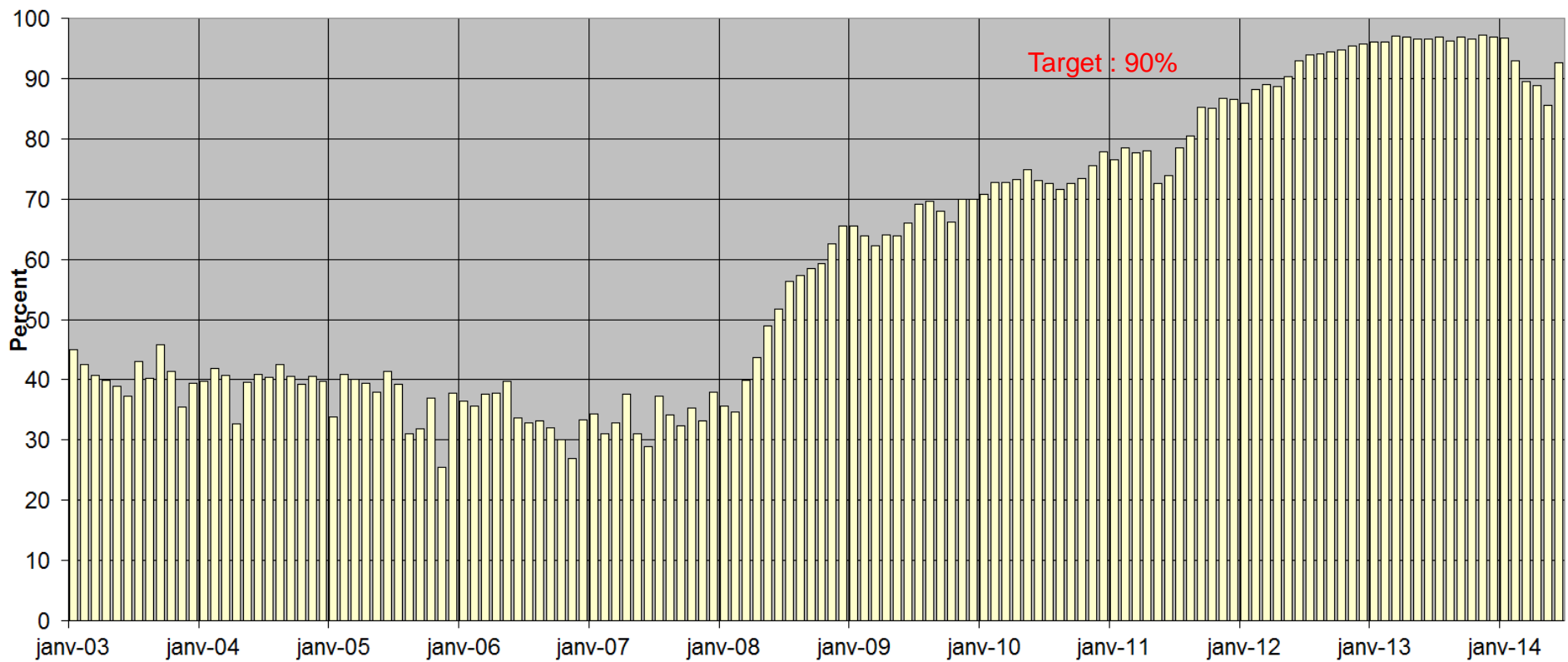
# Drifting Buoys Number of observations



# Drifting Buoys (Data availability)



# Drifting Buoys (Data timeliness % < 50 min)



# Contribution to EUCOS north area

- Contribution through IABP

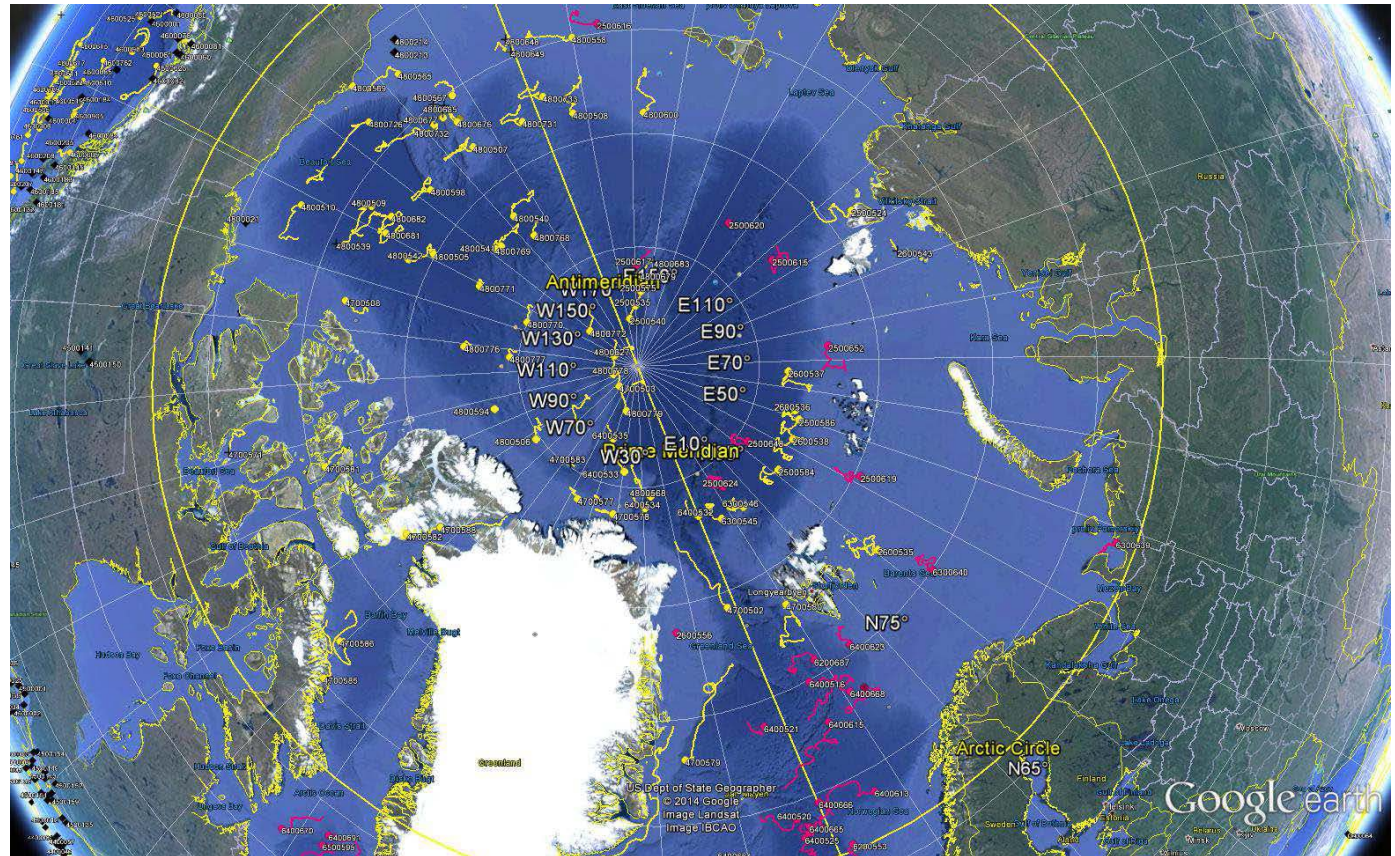
- 2 IcesAir in 2006,
- 3 ICEB buoys in 2007
- 4 SVP-B (2 Argos – 2 Iridium) in 2007
- 5 SVP-B (Argos) in 2008
- 15 SVP-B (Argos) in 2009
- extra free buoys from 2009 (10 to MetNo + 2 to NOAA) in 2010
- 3 New ICEB (2 Argos, 1 Iridium) + 12 SVP-B (Iridium) in 2011
- 22 SVP-B (Iridium) in 2012
- 13 SVP-B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



# North EUCOS area and Arctic

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

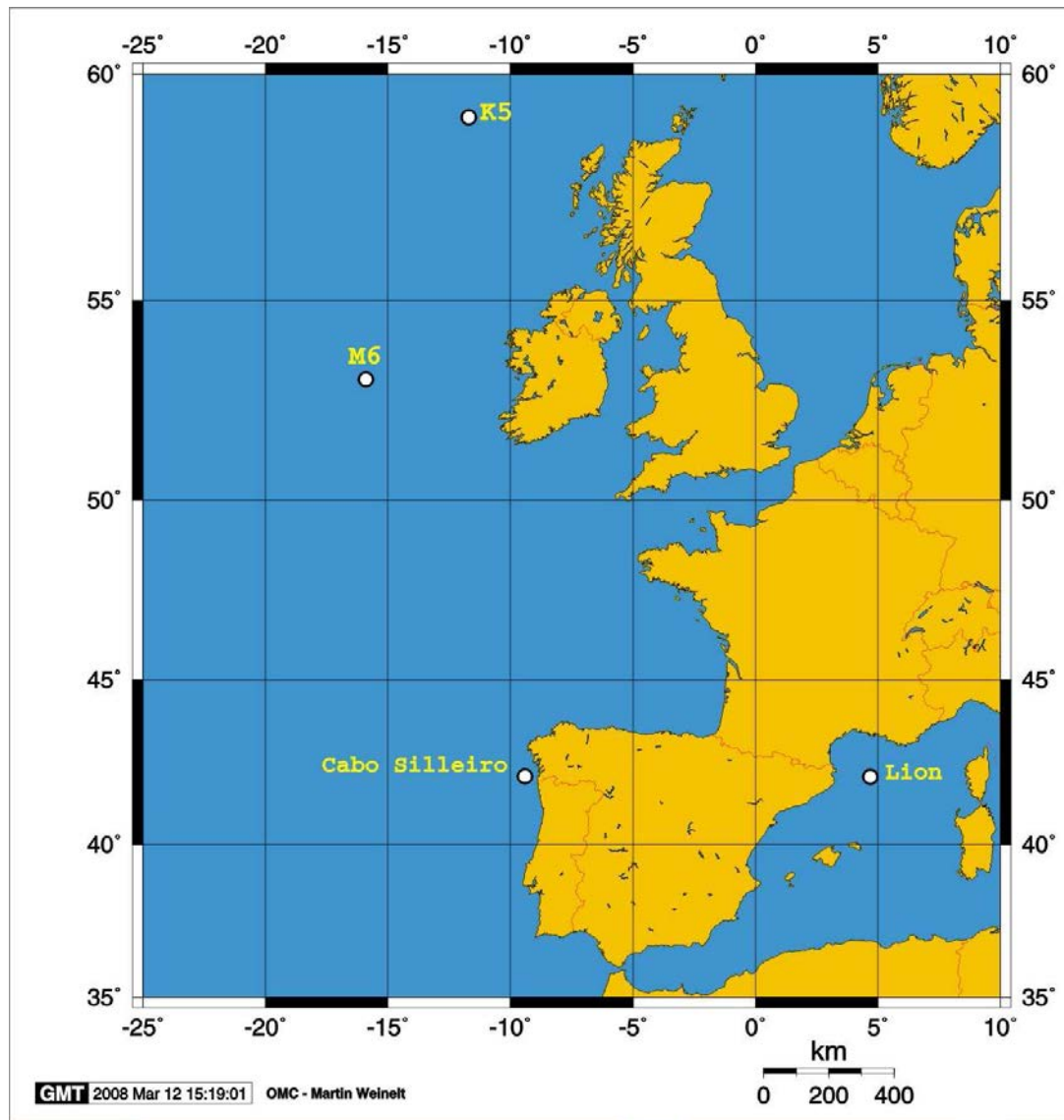
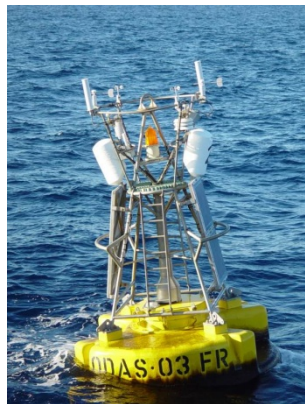
- E-SURFMAR
- Others
- ◆ (moored buoys)



Sept 2014

# EUCOS 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

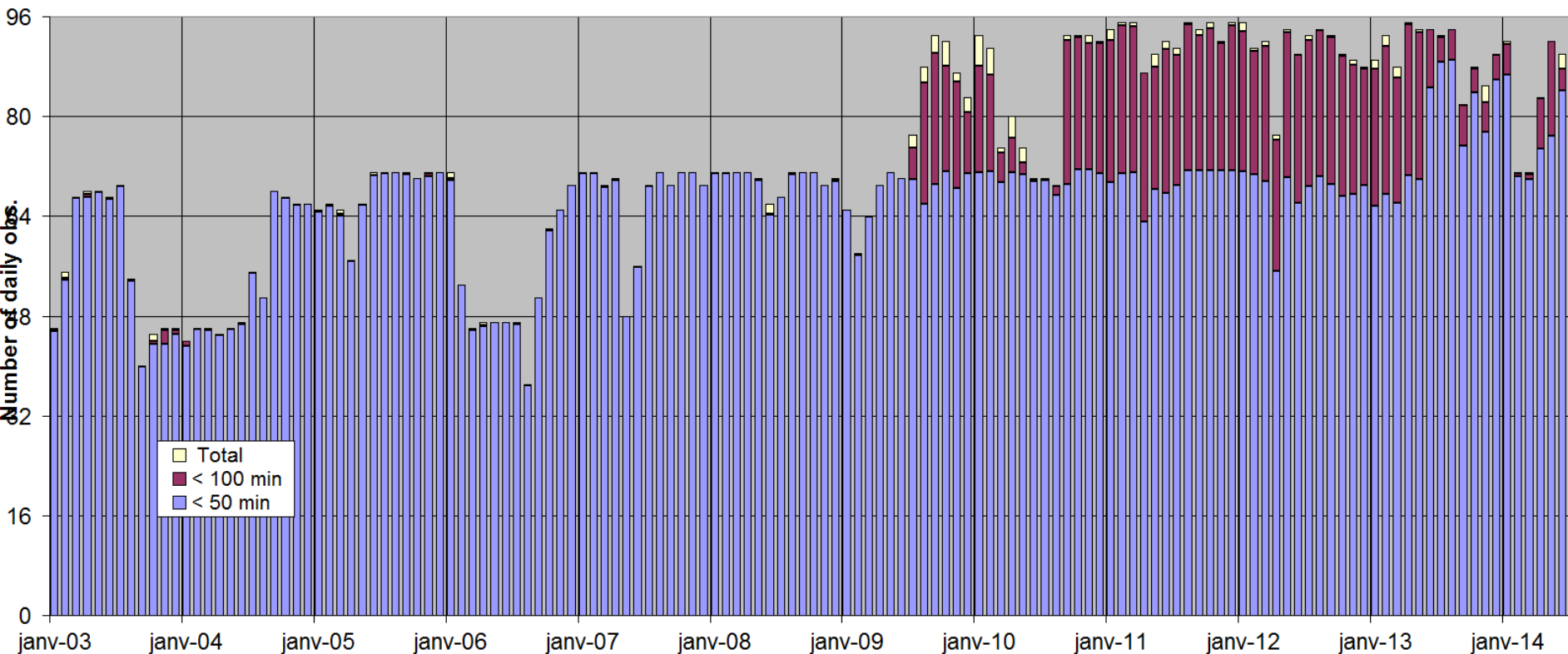


# EUCOS Moored Buoys

WMO	Name	Type	Country	GTS reports
<b>64045</b>	K5	K-pattern	UK	FM-13 SHIP FM-94 BUFR (spectral wave)
<b>62095</b>	M6	K-pattern	Ireland	FM-13 SHIP
<b>62084</b>	Cabo Silleiro	SeaWatch	Spain	FM-94 BUFR
<b>61002</b>	Lion	K-pattern	France	FM-13 SHIP FM-65 WAVEOB FM-94 BUFR (spectral wave)

# Moored Buoys data availability (EUCOS)

**EUMETNET moored buoys**  
(K5, M1 then M6 and Lion, then Cabo Silleiro)  
Data availability - Average number of hourly observations per day




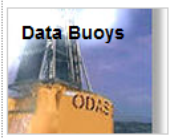

# Data Quality Control Tools



## MARINE OBSERVATION MONITORING Quality Control Tools



 **New : data buoys WMO Ids have**

 <p><b>Data Buoys</b></p>	<p><b>Monthly Statistics</b></p> <p>Buoys and VOS monthly statistics...</p>	<p><b>Blacklists</b></p> <p>BUOYS Blacklists Synthesis...          BUOYS Pressure ( global )...          BUOYS Pressure ( Surfmar )...          BUOYS SST ( global )...          BUOYS Positions ( global )...          DRIFTERS ASHORE...  <i>Some explanations here...</i></p>	<p><b>Daily Data plots</b></p> <p>Plots of data and differences with model outputs for BUOYS and VOS...</p>	<p><b>Other Tools</b></p> <p>Google Earth BUOYS map...          Nearest BUOYS ...          BUOYS location on map...          Thermistor String BUOYS...</p>
	<p><b>VOS Ships</b></p> 	<p>Statistics of comparisons with models outputs established by different meteorological centres. Enter the parameter and the station(s) you wish.</p>	<p>VOS Pressure ( Global ) ...          VOS Pressure ( Surfmar )...          VOS Positions ( Global )...          VOS Wind (Surfmar)...          VOS Unknown (Global)...</p> <p>Blacklists (daily updated) : List of stations with dubious values for a given parameter ( wind, sst, pressure, ... ) for all stations or E-SURFMAR stations only.</p>	<p>Plots of data and plots of differences with some model outputs (QC plots) over the past two weeks for buoys or VOS.</p>

Usefull Internet Links ( select domain needed ... )

**Monitoring**

**Metadata**

- EUCOS Monitoring on [eucos.dwd.de](#)...
- Met Office Monitoring on [research.metoffice.gov.uk](#)...
- ECMWF monitoring ...
- EUMETSAT SAF Ocean comparisons with satellite SST on [saf.met.no](#)...
- NOAA : NESDIS/STAR - iQuam - Quality Monitor for in situ SST...
- NOAA : OSMC interactive maps ...
- Meteo France : Observations density maps on different periods...
- Moored Stations real time data...
- Network Status JCOMM in-situ Observing Platform Support centre ( real-time maps and statistics )...
- A link to send feedbacks on dubious obs to data responsables through JCOMM Quality Control Relay ...



Display WEB site explanations >

WER Designed by Jean-Pierre KERSEBAO - Meteo France - Août 2009 - Aménagement

# 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/>