

ESURFMAR Report to DBCP

by

Jean Rolland, Pierre Blouch, Michel Trémant

ESURFMAR



- ✓ E-SURFMAR is an optional programme of the ground based EUMETNET Composite Observing System (EUCOS)



- ✓ EUMETNET is the Conference of European National Meteorological Services (22 WMO members in 2007)
- ✓ Météo-France is the EUMETNET member responsible for E-SURFMAR

E-SURFMAR Programme

Main Objectives

EUMETNET meets

22 European Meteorological Services.

Austria, Belgium, Croatia, Cyprus, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Ireland, Latvia, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom

17 out of them are participating in E-SURFMAR

- ✓ To co-ordinate, optimise and progressively integrate the activities for surface marine observations within the EUCOS Operational framework
- ✓ Main EUCOS aim : to optimise the ground observing system to improve Numerical Weather Prediction (NWP) over Europe
- ✓ First stage 2003-2006
New phase 2007-2011



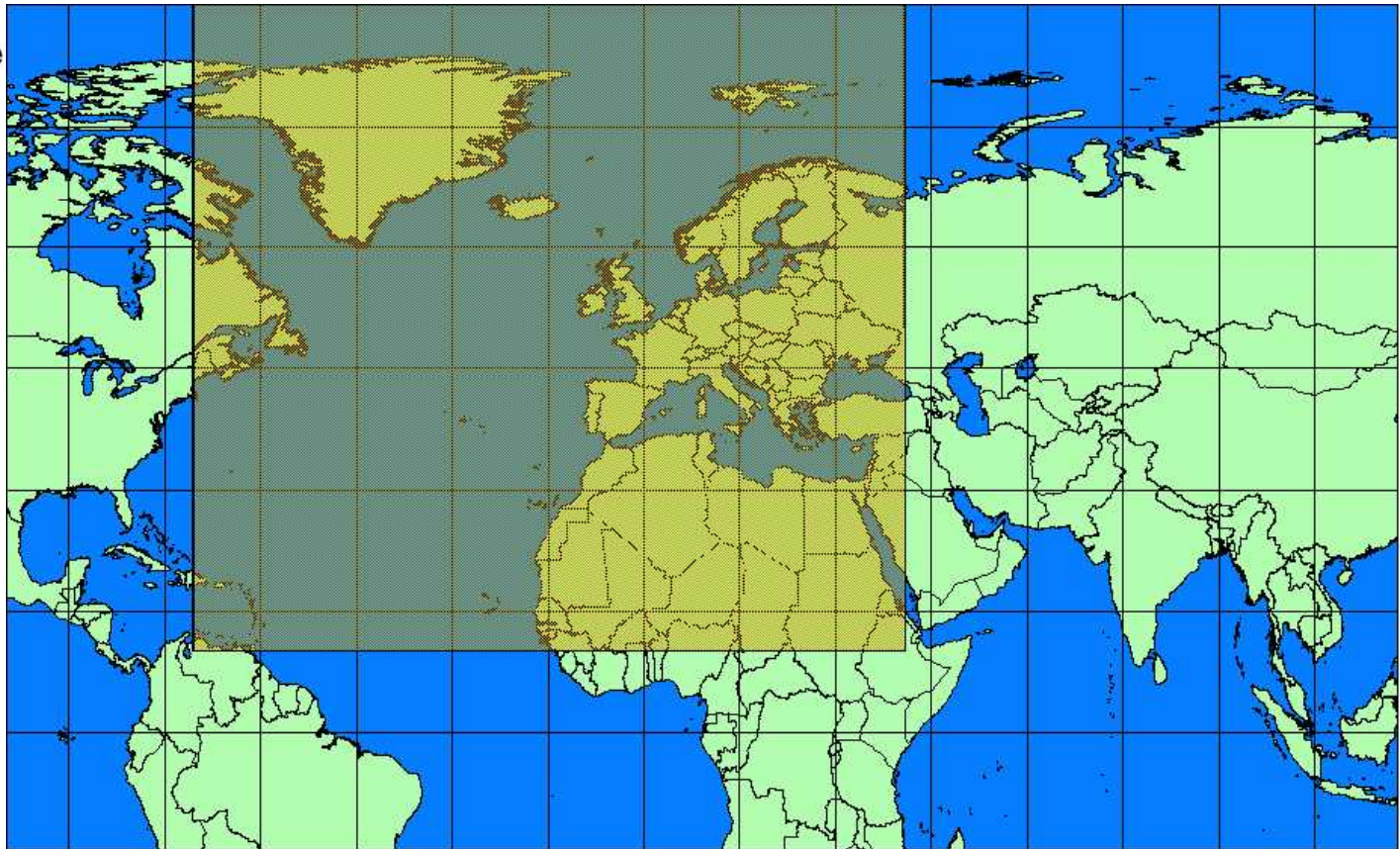
Surface Marine Programme



E-SURFMAR Area



Surface Marine Programme



Data buoys management



Surface Marine Programme

- E-SURFMAR is responsible for the European meteorological data buoys
- A DB Programme Manager is appointed
- A DB Technical Advisory Group has been established

Meetings:

January (Geneva) and May 2005 (Hamburg)

June 2006 (Galway)

May 2007 (Larnaka)

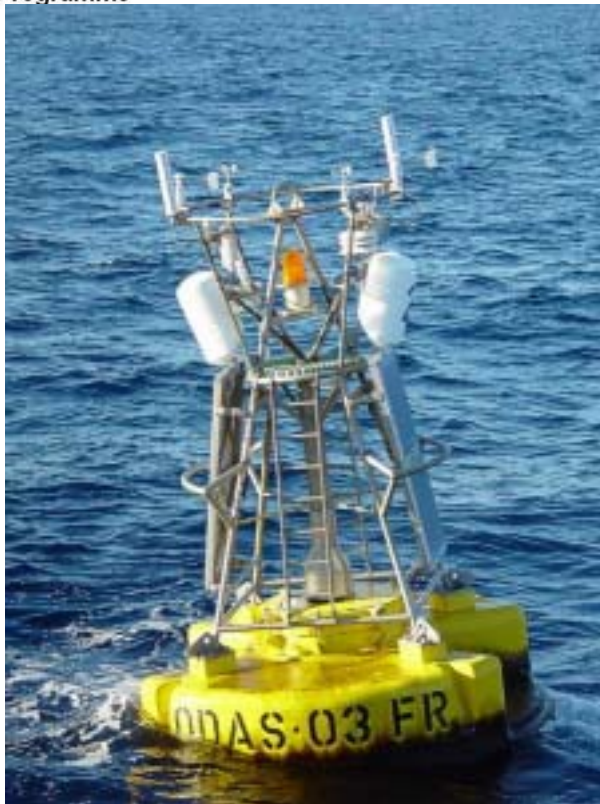
- E-SURFMAR is an action group of the DBCP



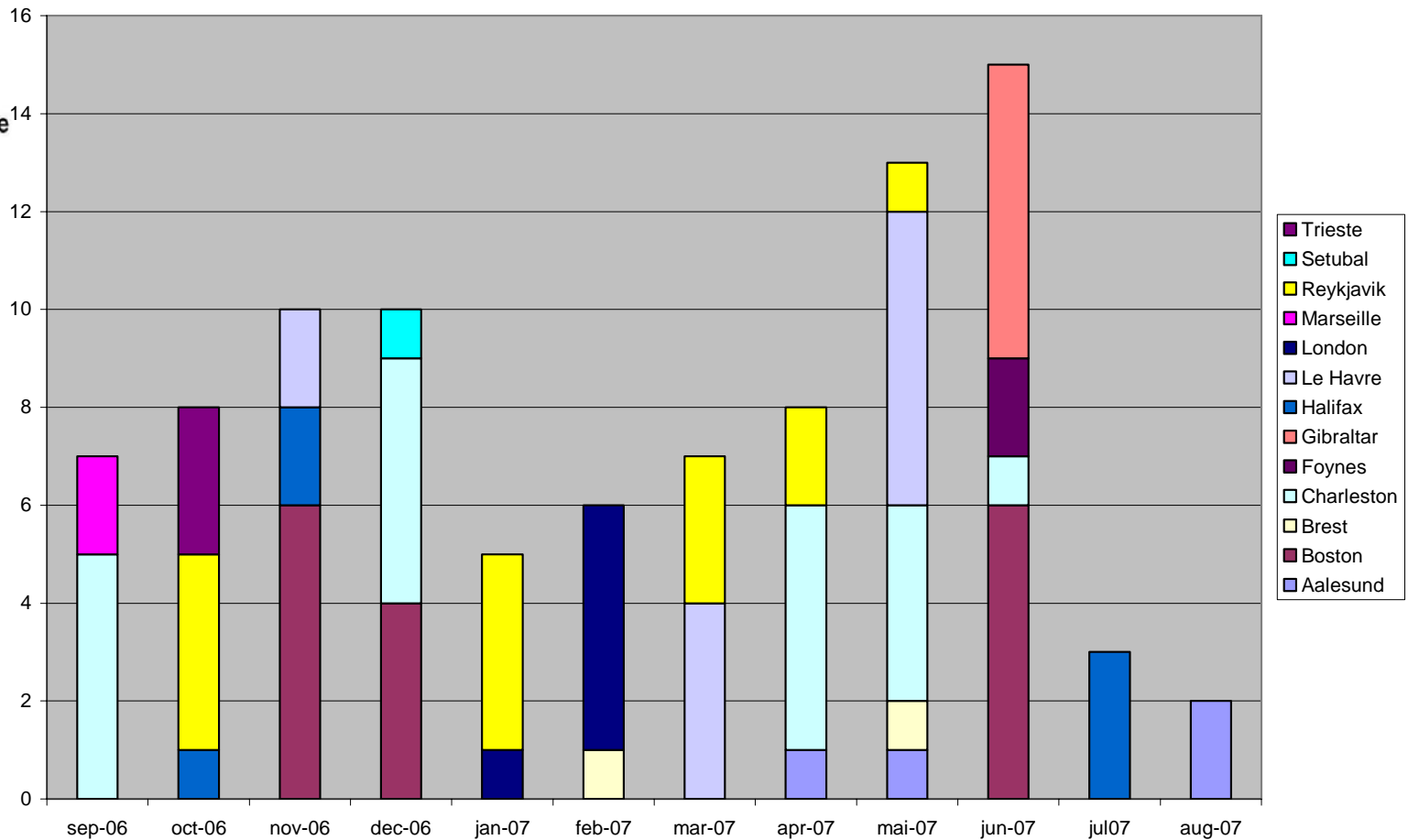
DATA BUOYS



Surface Marine Programme



Drifting Buoys deployed (Sept06 – Aug07) (94)

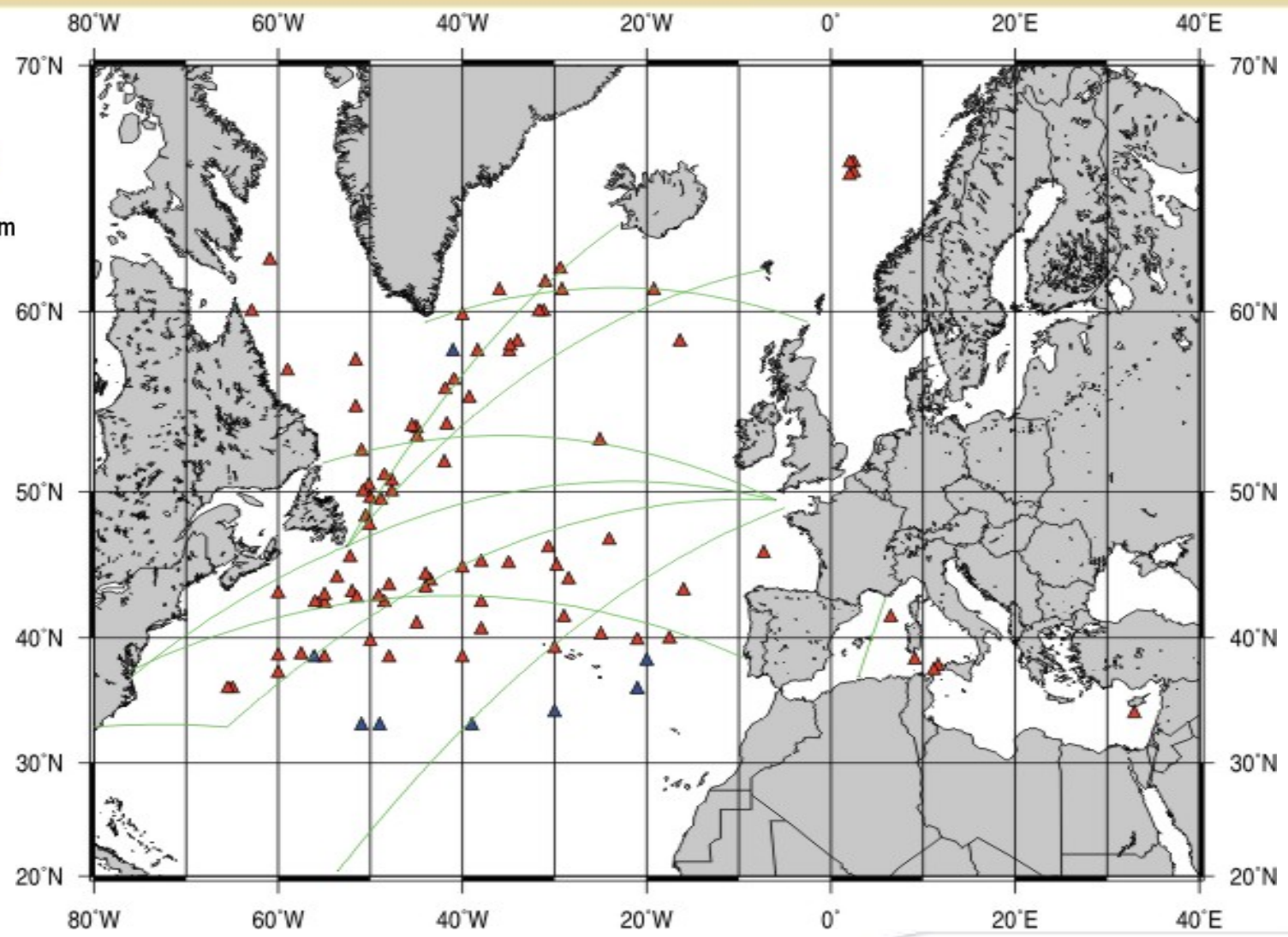


Deployment routes



Surface Marine Programm

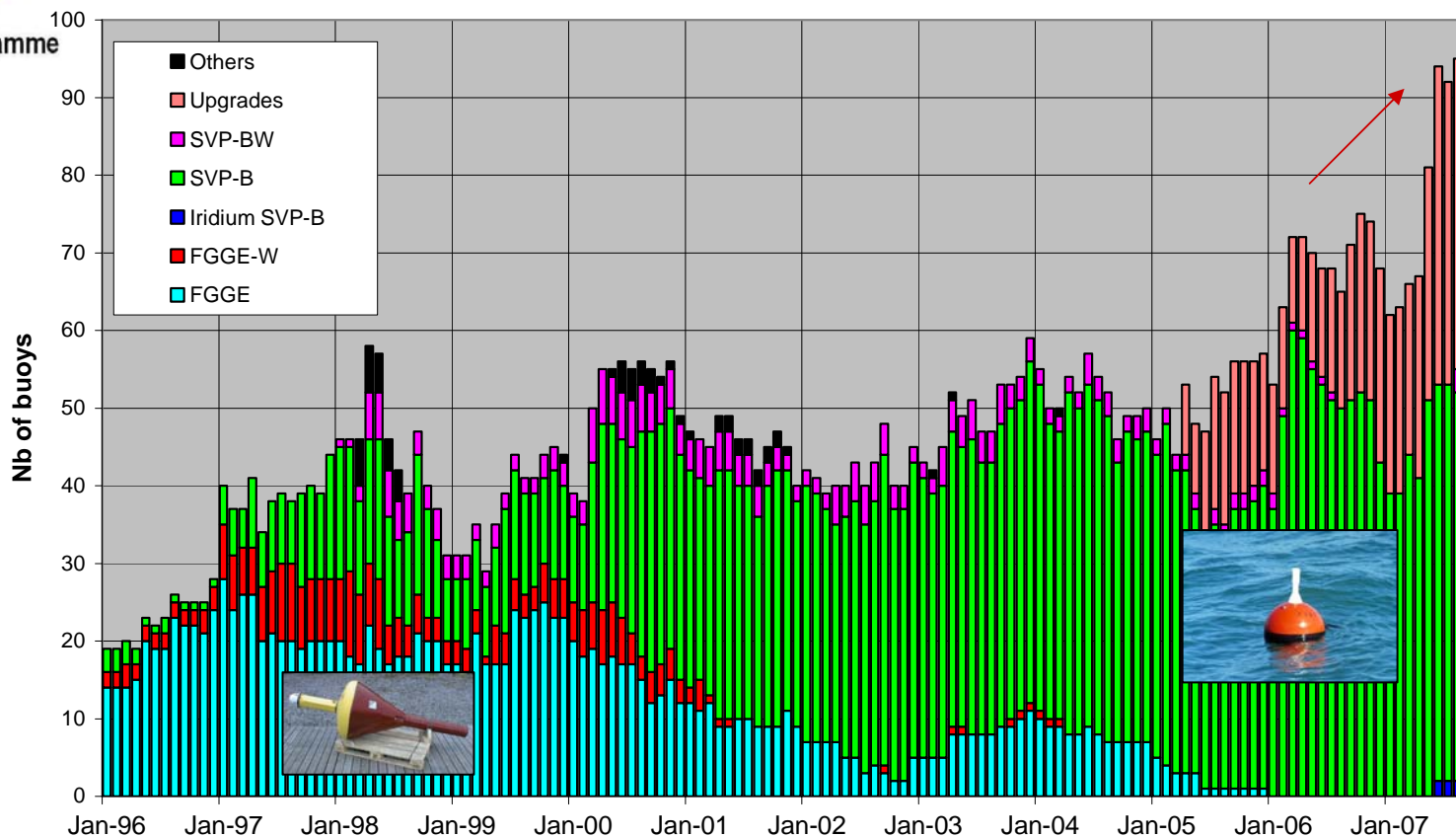
Early failure in blue



Operating drifting buoys



Surface Marine Programme

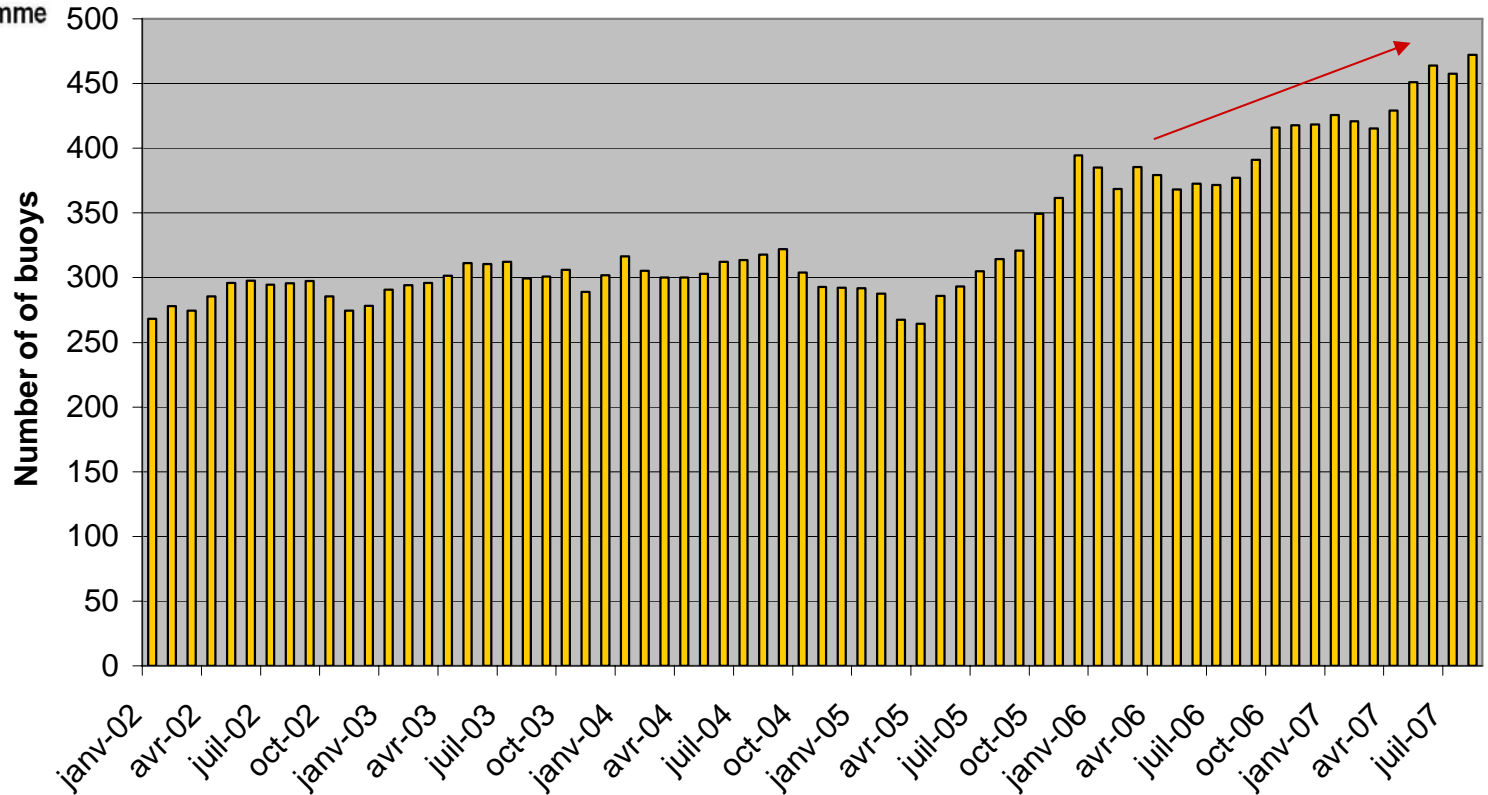


Drifting buoys (AP - world)



Surface Marine Programme

Barometer drifting buoys - Data availability
Average number of operational buoys



Network status



Surface Marine Programme

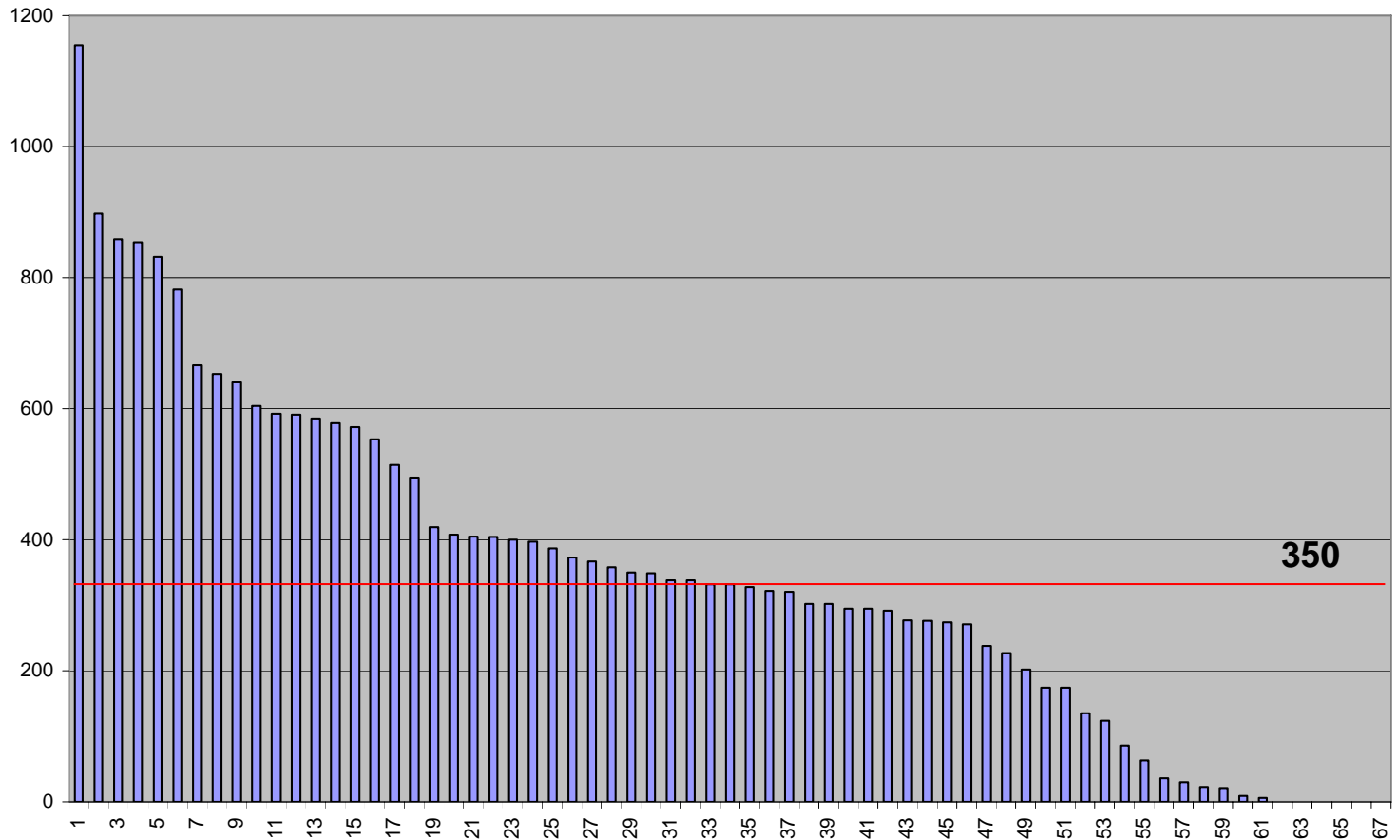
August 2007

LEGEND

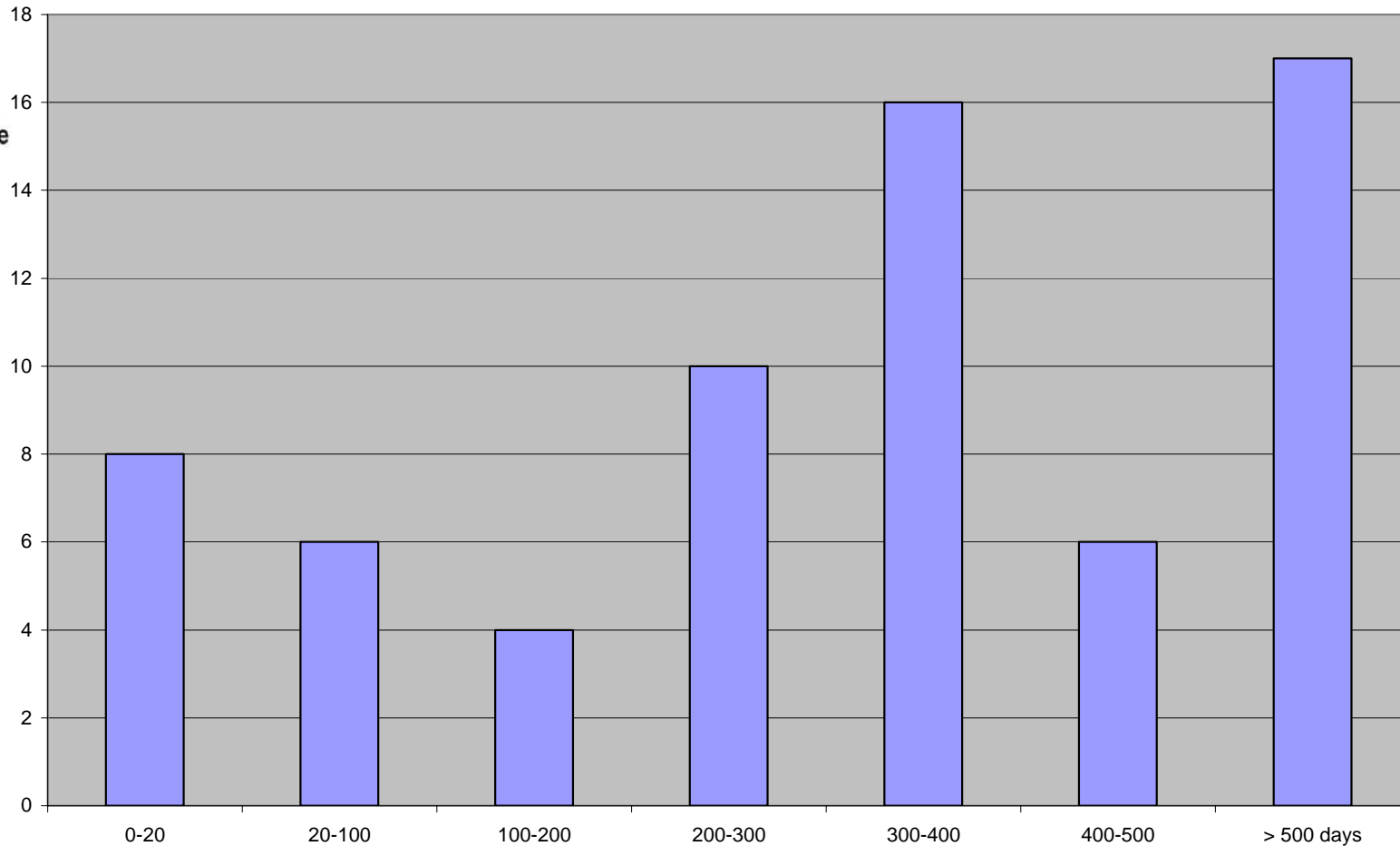
- △ EUCOS drifting buoys
- Other drifting buoys
- ▲ ● Air Pressure
- ▲ ● AP + Wind
- ◆ Other moored buoys
- Seawatch/Wavescan buoys
- Other moored buoys



Lifetime of buoys (AP) (67 buoys)



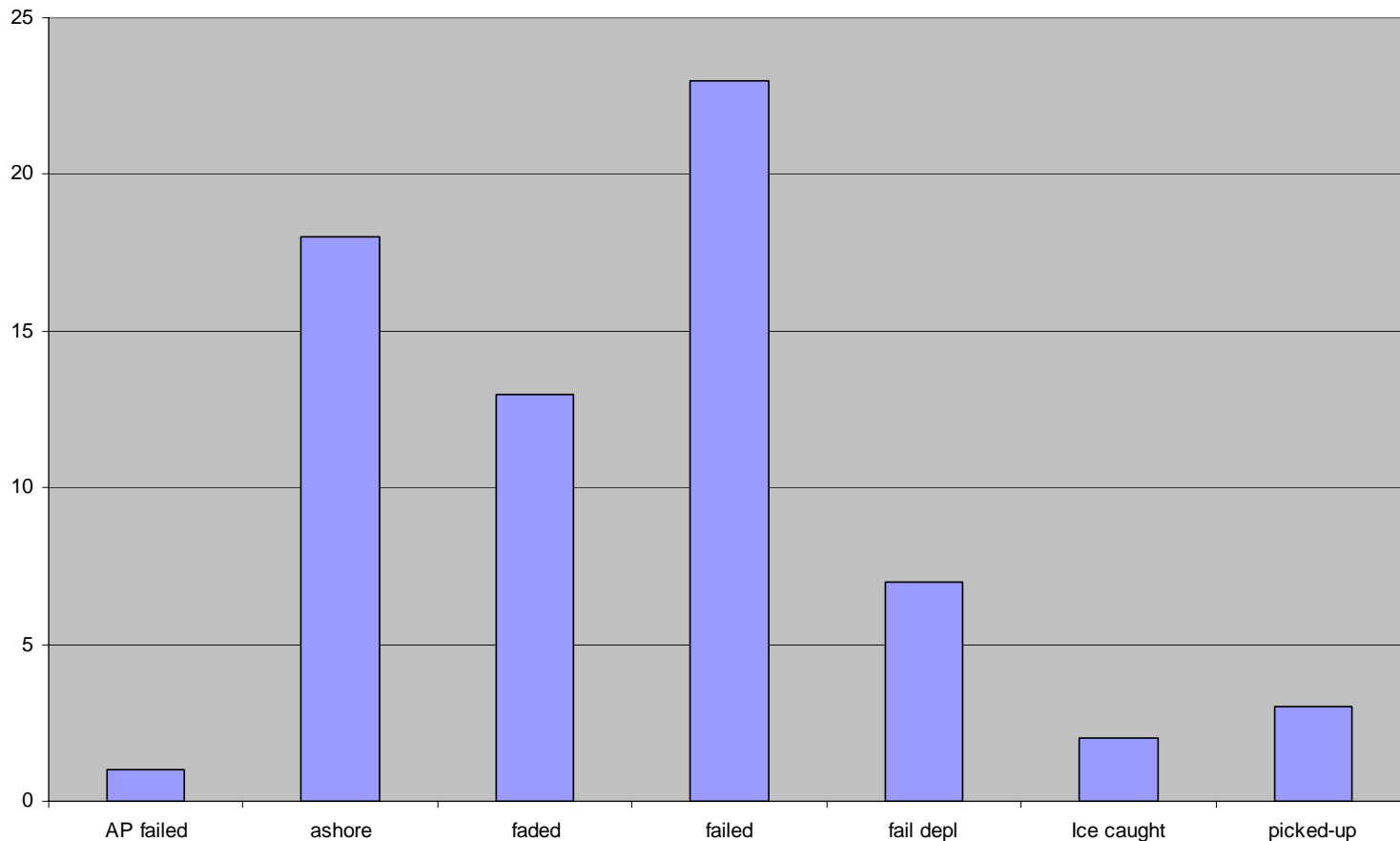
Lifetime (AP) (67 buoys)



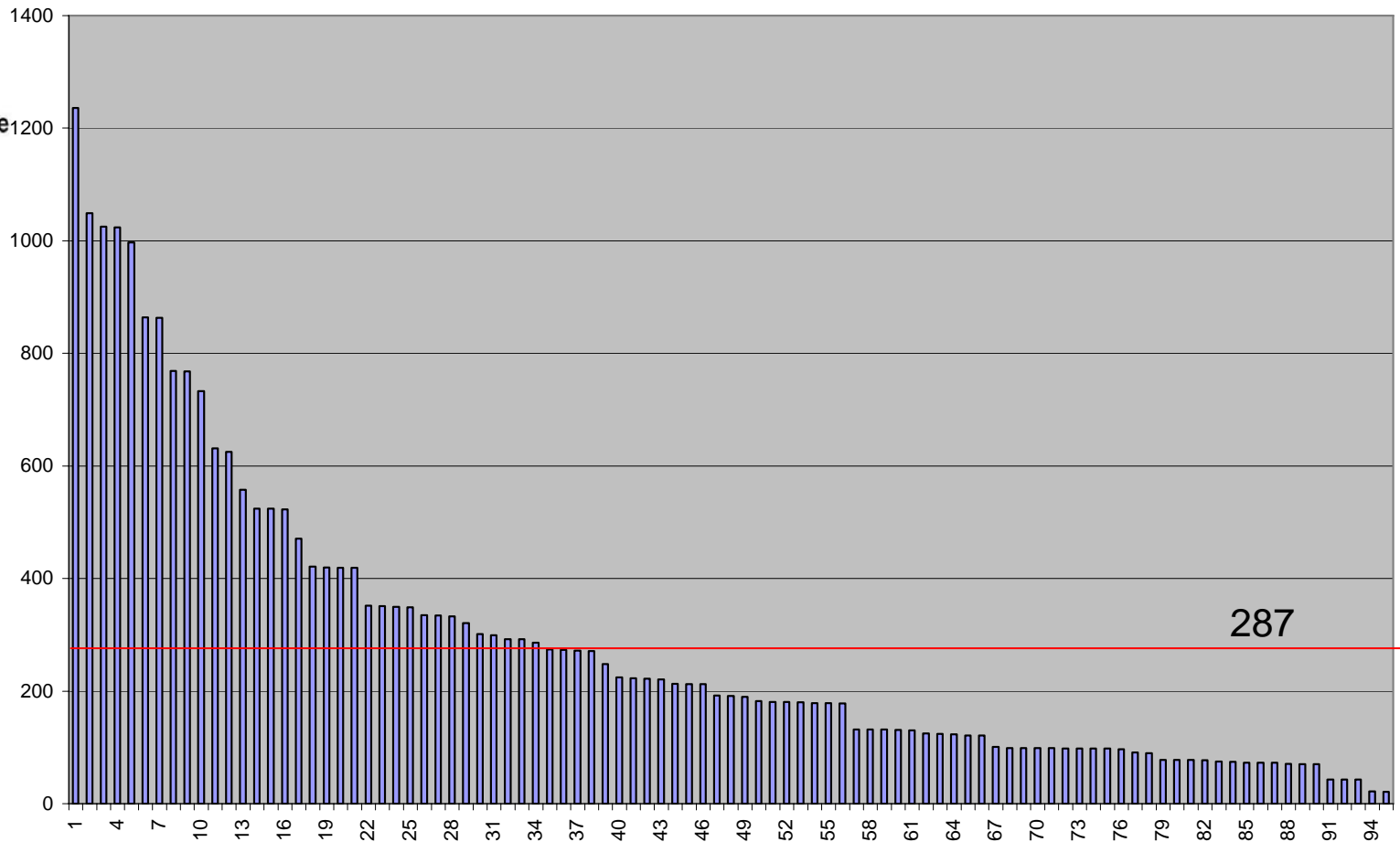
Causes of failures (67 buoys)



Surface Marine Programme



Age of the network (95 buoys)

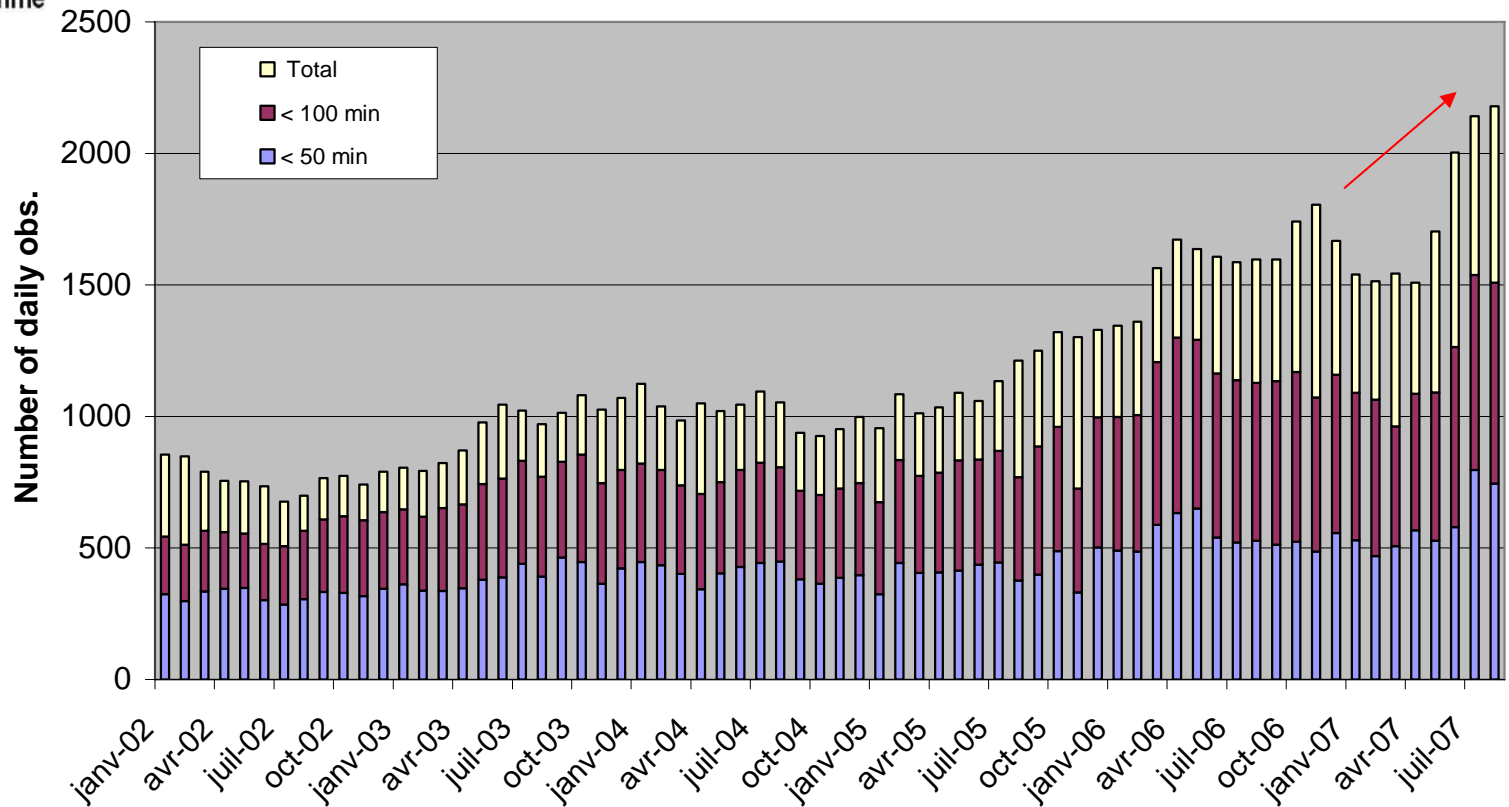


DB Number of observations



Surface Marine Programme

EGOS then EUCOS drifting buoys - Data availability Average number of hourly observations per day

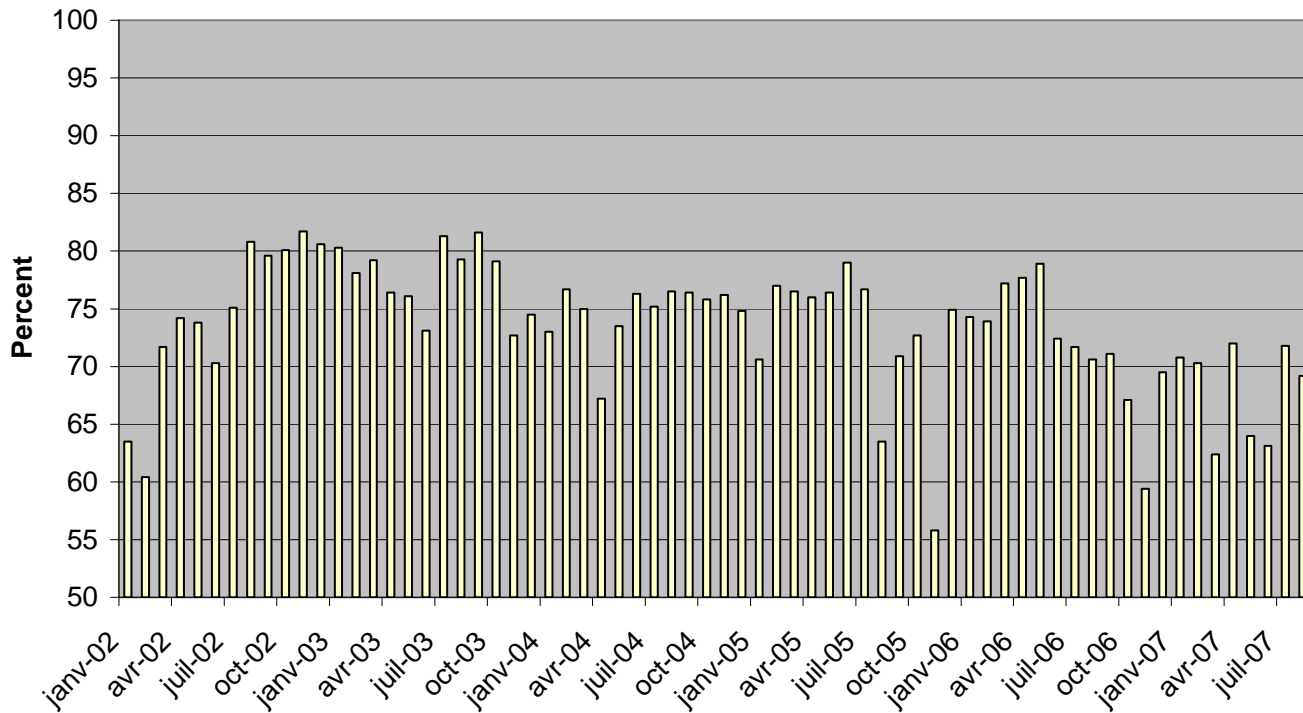


DB Data timeliness



Surface Marine Programme

EGOS then EUCOS drifting buoys - Data timeliness
Percentage of data arrived within 100 minutes

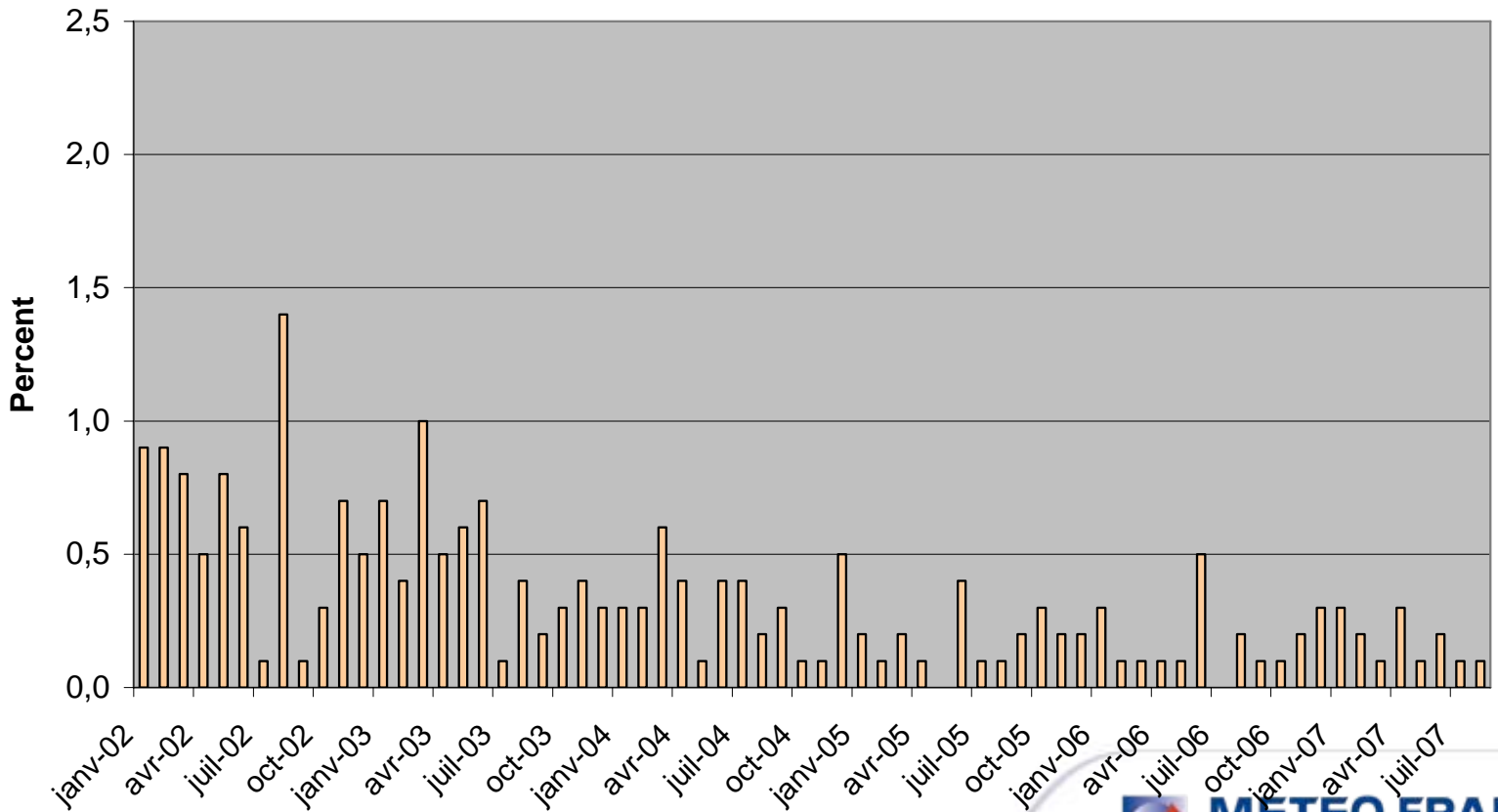


DB Data Quality



Surface Marine Programme

EGOS then EUCOS drifting buoys - Data quality Gross Errors of differences with the French model outputs

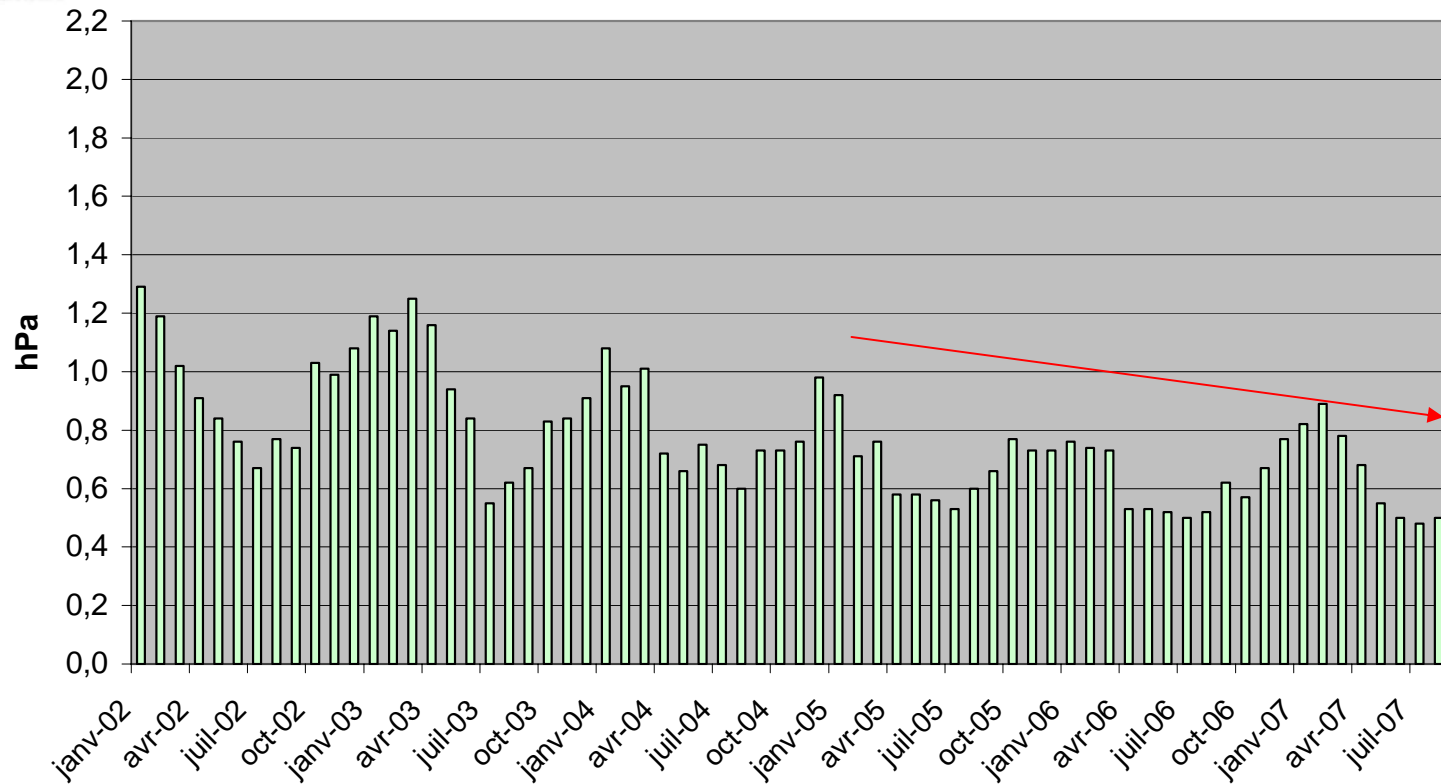


DB RMS



Surface Marine Programme

EGOS then EUCOS drifting buoys - Data quality
RMS of differences with the French model outputs



Day to day monitoring

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



Surface Marine Programme

The screenshot shows a web browser window with the URL <http://www.meteo.shom.fr/qctools/>. The page has a dark blue header with the DBCP logo (Data Buoy Cooperation Panel, WMO-IOC) on the left and the METEO FRANCE logo on the right. The main heading is "Buoy QC Tools". Below the heading, there is a paragraph: "Some tools are available here to make buoy data quality controls easier. Please, take care of the results and check different source of information before taking any action." The main content area is divided into two columns. The left column contains six underlined links: "Buoy QC statistics", "Data and QC plots", "Location on charts", "Nearest other buoys", "List of buoys reporting dubious AP values", and "Drifting buoys ashore". The right column contains descriptive text for each of these links.

Tool Name	Description
<u>Buoy QC statistics</u>	Monthly statistics of comparisons with model outputs are regularly gathered from different PMOCs. A query form allows to retrieve those you need.
<u>Data and QC plots</u>	Recent buoy data (past two weeks) and results of comparison with Meteo-France model outputs can be seen on graphs. Files are daily updated.
<u>Location on charts</u>	You wish to know whether your buoy is ashore ? Fill up the form with its WMO id or its position and display the chart.
<u>Nearest other buoys</u>	The data of your buoy are doubtful ? Check the data of its neighbours.
<u>List of buoys reporting dubious AP values</u>	Automatically issued every day, a list of buoys having reported dubious AP values over the past two weeks. Links allow to carefully check data and positions.
<u>Drifting buoys ashore</u>	Automatically issued from GTS data received at Meteo-France, a list of buoys reporting a fixed position over the 10 last days, is issued. These buoys are supposed drifting because of their WMO id characteristics. "SST" values are generally no more measured at sea and air pressure can be biased due to a possible elevation above the sea level.

Day to day monitoring

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



Surface Marine Programme

The screenshot shows a web browser window with the address bar containing <http://www.meteo.shom.fr/qctools/eblackap.htm>. The browser's navigation bar includes links for 'Accueil', 'Signets', 'Meteo', 'Internet', 'Nouveautés', 'Avoir', 'Membres', 'Connexions', and 'Marché'. The main content area has a light blue background and displays the following text:

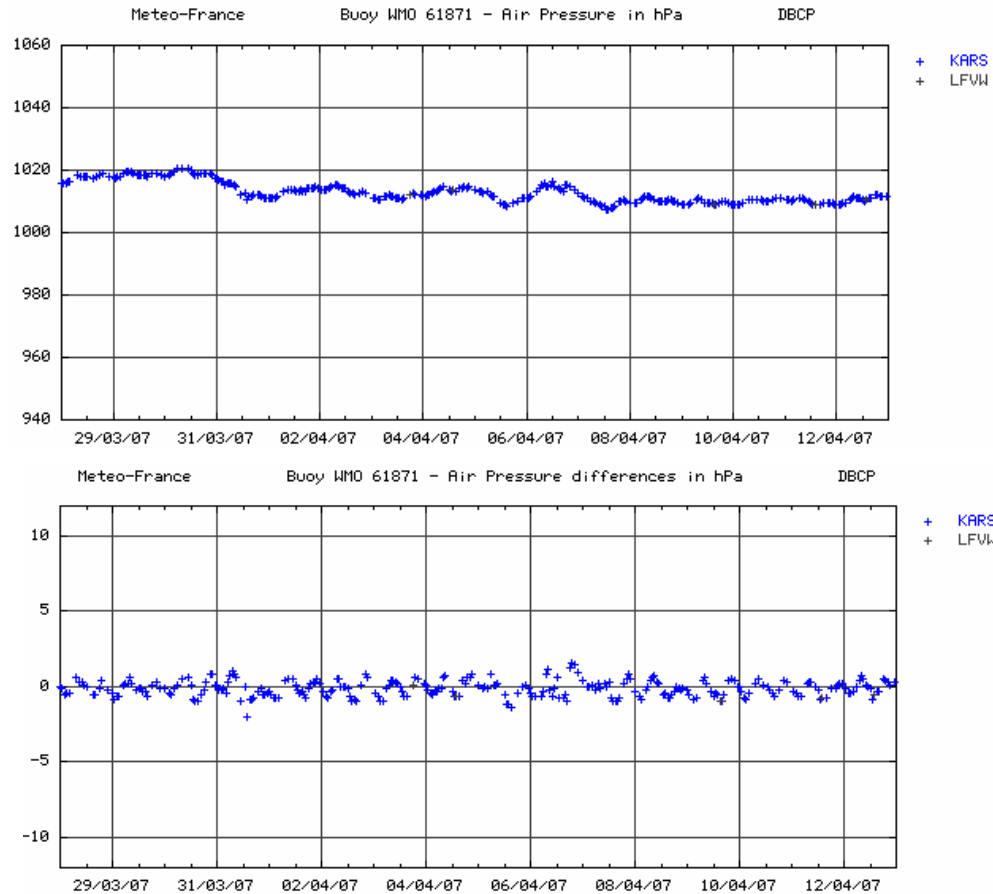
QC Statistics - EUMETNET buoys providing dubious AP values

*List of platforms for which the number of gross errors is higher than 2 and higher than 3%,
or the standard deviation is higher than 1.5 hPa
or the bias is higher than 1.2 hPa in absolute value
over the past two weeks.*

WMO	Argos	Prgm	Own	End Date	Lat	Lon	Nobs	GE	Bias	Sd	Stat	Data	Comp	Near	Map
-----	-------	------	-----	----------	-----	-----	------	----	------	----	------	------	------	------	-----

Day to day monitoring

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



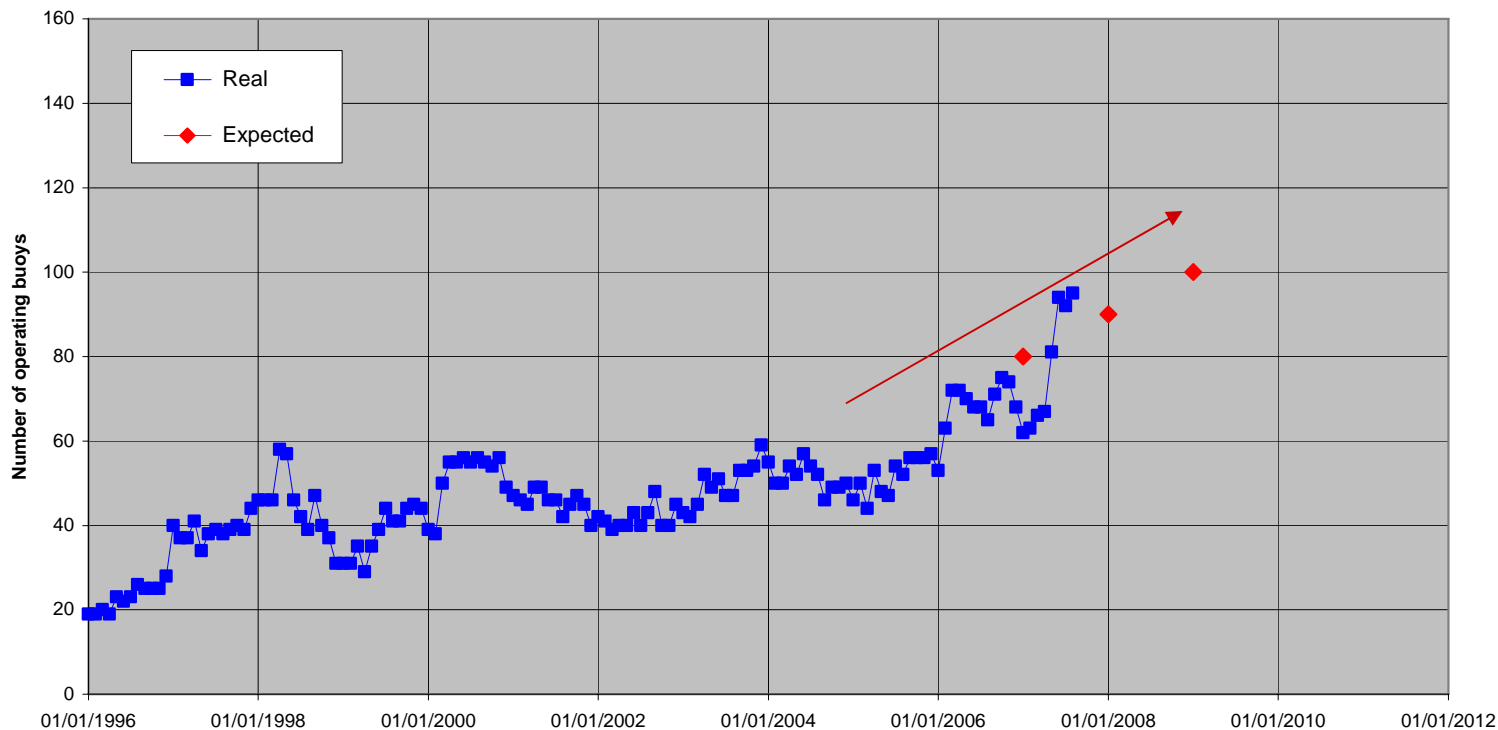
Future



Surface Marine Programme

Number of drifting buoys operated by EGOS then E-SURFMAR in the North Atlantic and in the Mediterranean Sea

Expectations carried out in 2006 according to the 2006' budget and planned budgets for 2007 and 2008



Participation to IPY



Surface Marine Programme

- Approved by the 26th EUMETNET Council (Oct. 2005) and PB-OBS12 (March 2006)

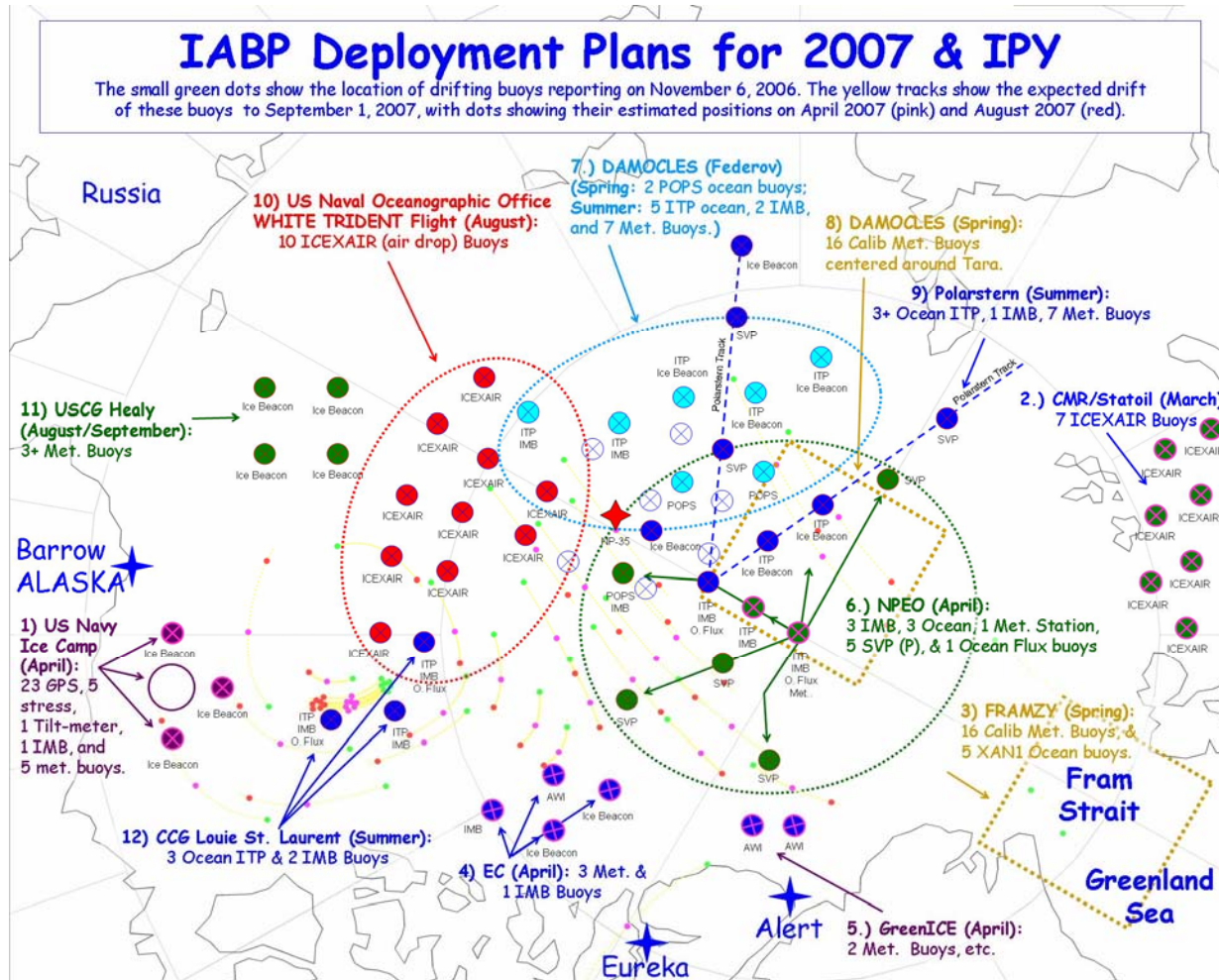
- funds from COSNA (~118 k€)
- 58% of this budget for ice buoys

- Contribution through IABP

- 2 IcxAir in 2006,
- 3 ICEB buoys in 2007
- 4 SVP-B (2 Argos – 2 Iridium) in 2007



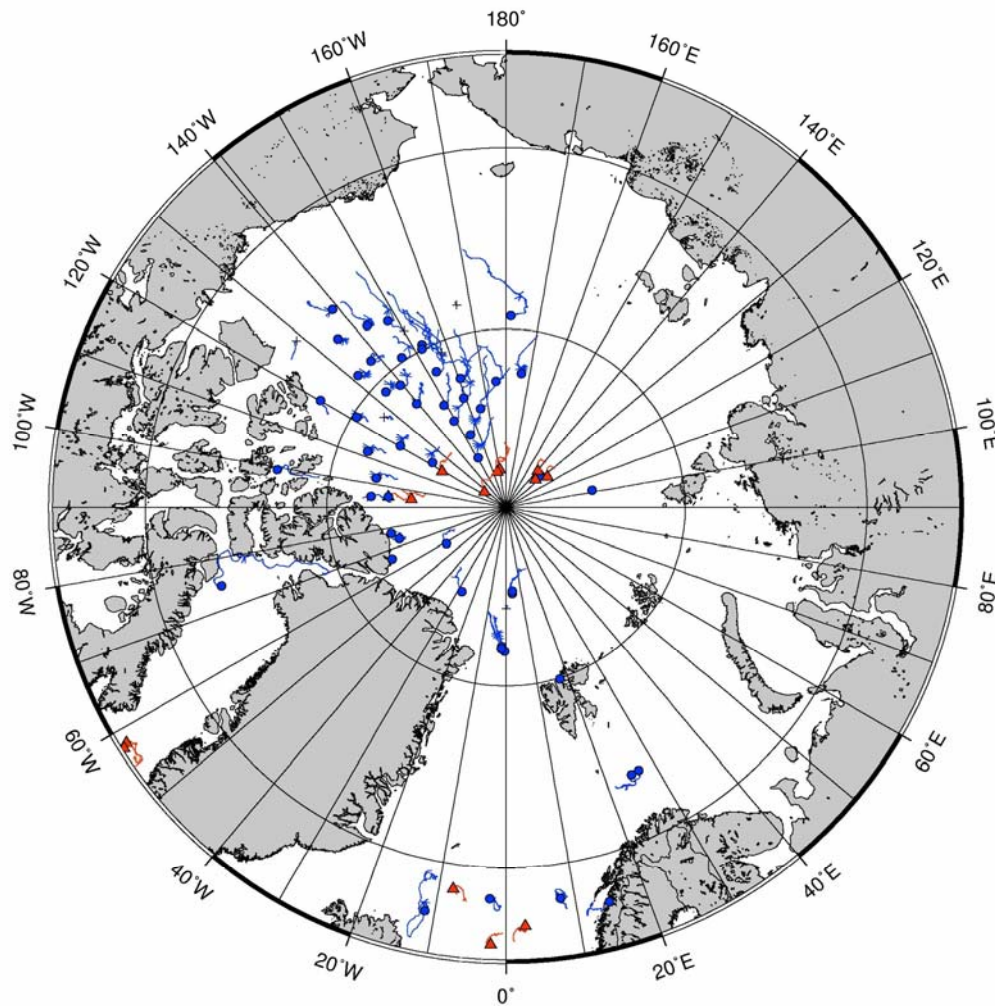
IPY- Deployment Plans for 2007



IPY (Sept 2007 – GTS)



Surface Marine Programme



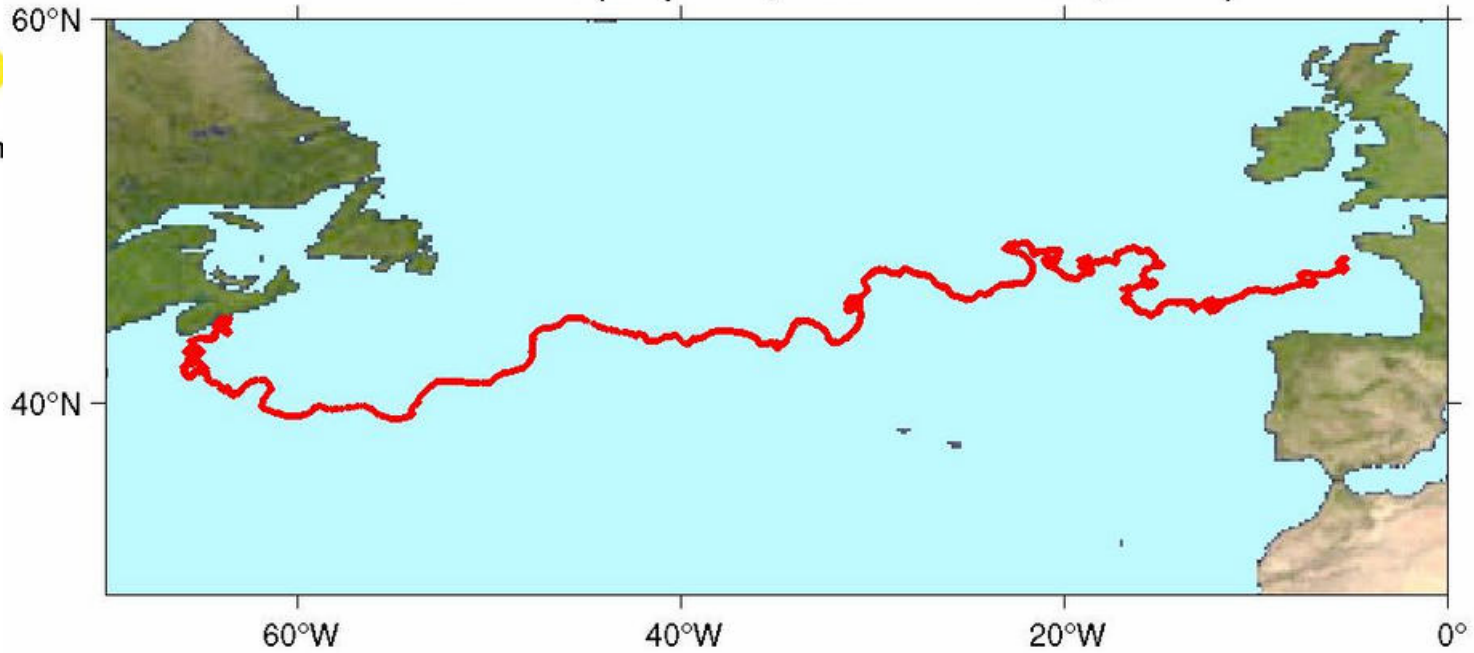
September 2007 - Drifting buoy trajectories in IPY

**Triangle =
ESURFMAR drifters**



Buoy « 1250 » (Halifax – Brest)

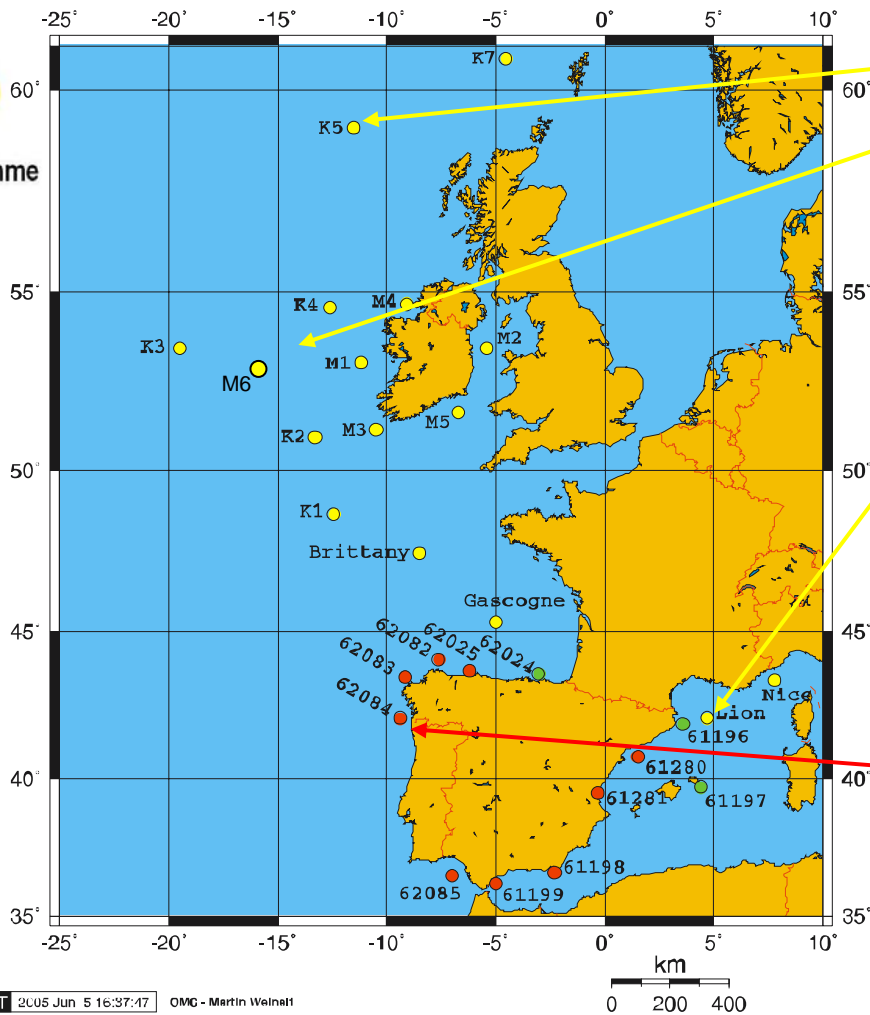
Drifter 36256 (Sept 18, 2005 – Feb 22, 2007)



← 521 jours →



Moored buoys



E-SURFMAR Moored buoys



Surface Marine Programme

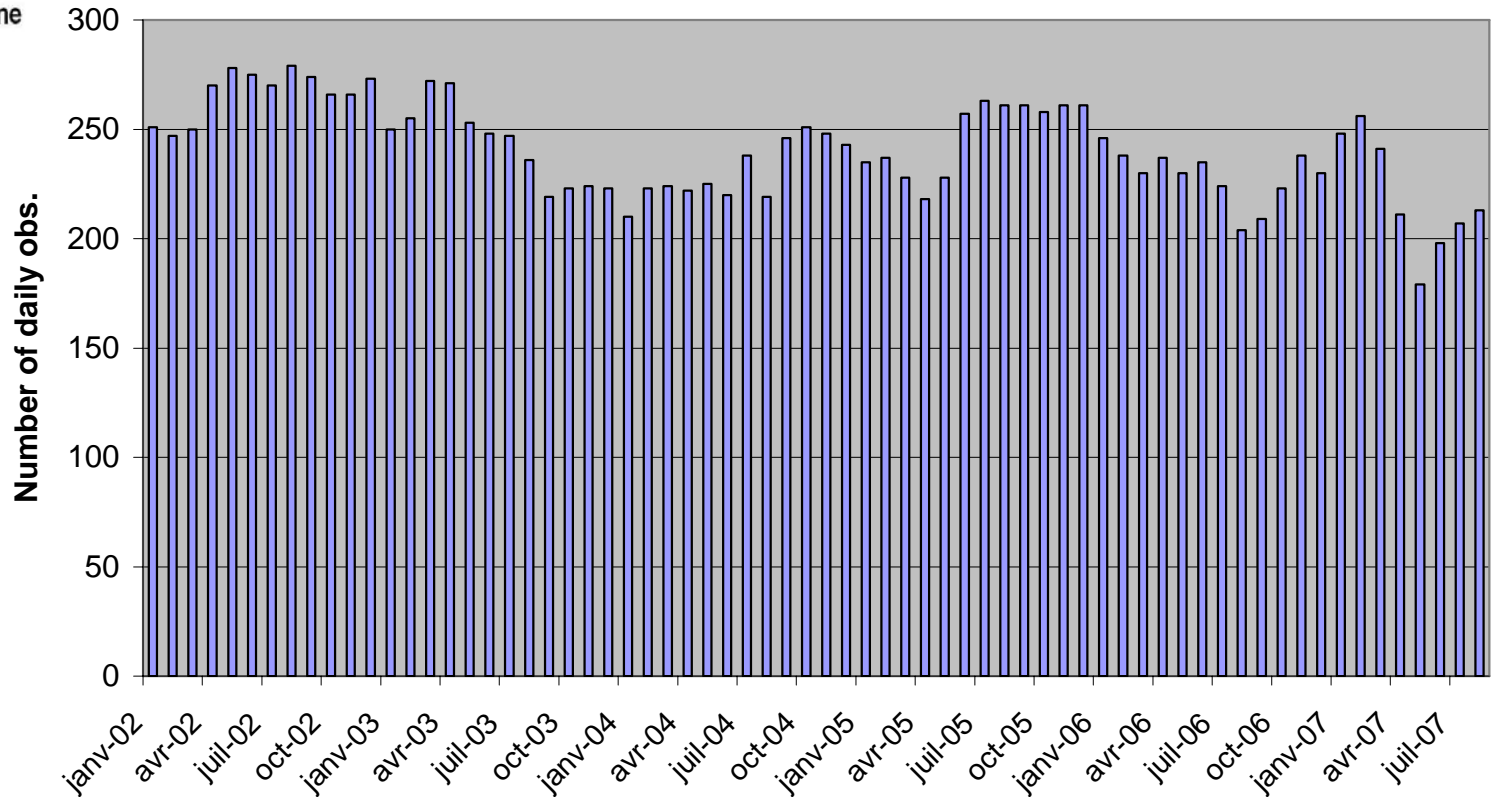
WMO	Name	Type	Country	GTS reports	Remarks
64045	K5	K-pattern	UK	FM-13 SHIP	Re-deployed by 2006/08/21. Will provide directional spectra through Iridium 4 times a day.
62095	M6	K-pattern	Ireland	FM-13 SHIP	Deployed by 25th of September Replace M1 as EUCOS buoy.
62084	Cabo Silleiro	SeaWatch	Spain	FM-96 BUFR (non-standard template)	The only buoy currently reporting required directional wave spectra.
61002	Lion	K-pattern	France	FM-13 SHIP FM-65 WAVEOB	Provide omnidirectional wave spectra

MB Number of observations



Surface Marine Programme

Twelve former EUCOS moored buoys - Data availability
Average number of hourly observations per day

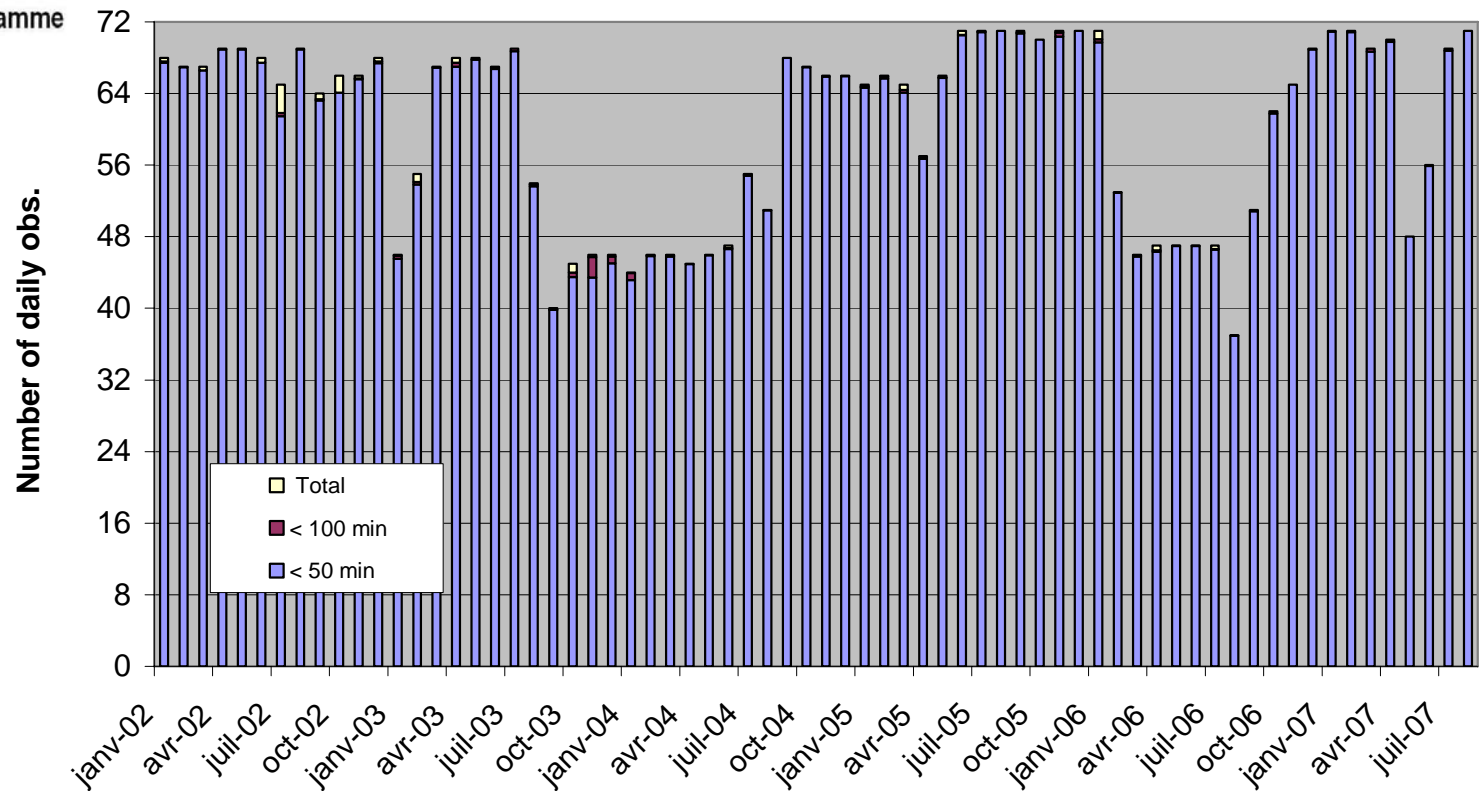


MB ESURFMAR Number of obs



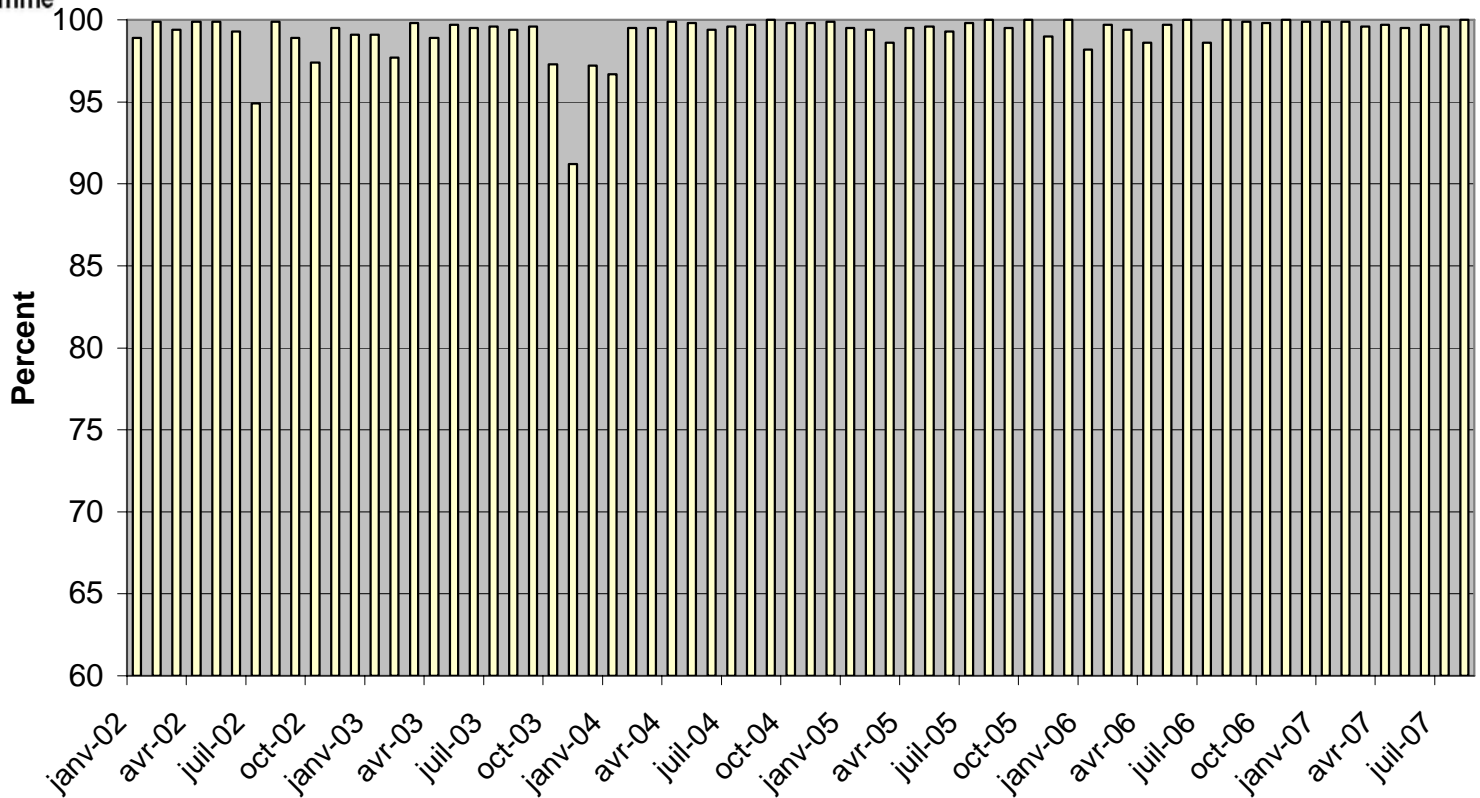
Surface Marine Programme

K-pattern EUCOS moored buoys (K5, M1 then M6 and Lion)
Data availability - Average number of hourly observations per day



MB Data timeliness

Twelve former EUCOS moored buoys - Data timeliness
Percentage of data arrived within 50 minutes

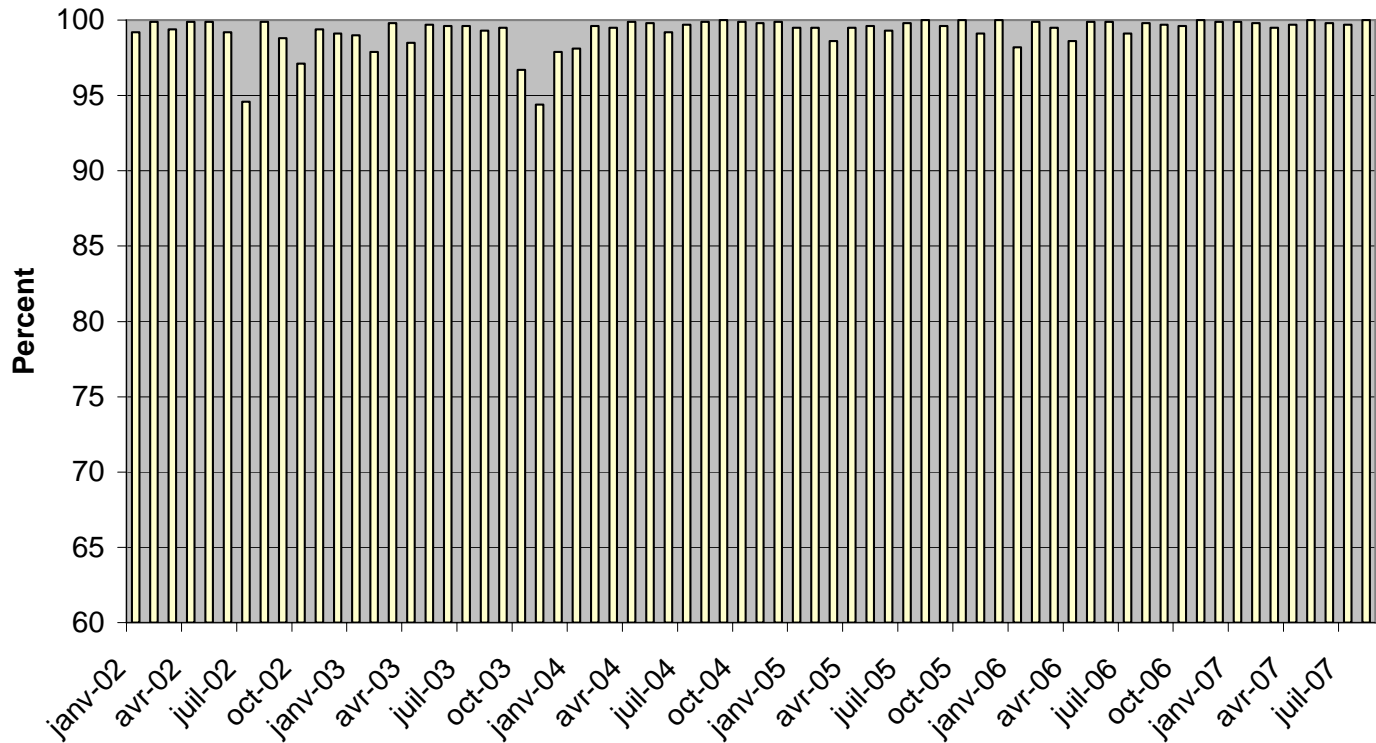


MB ESURFMAR Data timeliness



Surface Marine Programme

K-pattern EUCOS moored buoys (K5, M1 then M6 and Lion)
Data timeliness - Percentage of data arrived within 50 minutes

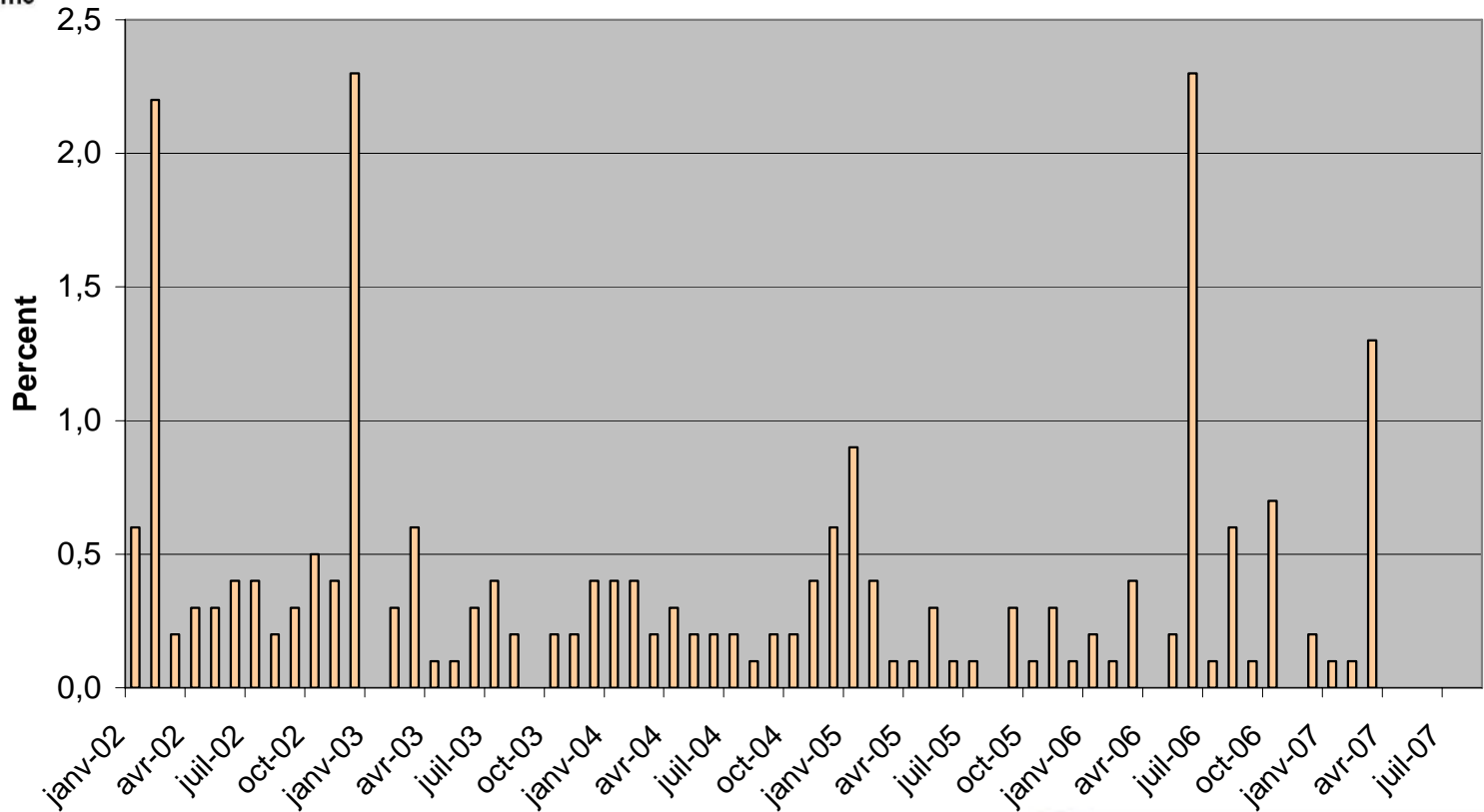


MB Data Quality



Surface Marine Programme

Twelve former EUCOS moored buoys - Data quality Gross Errors of differences with the French model outputs

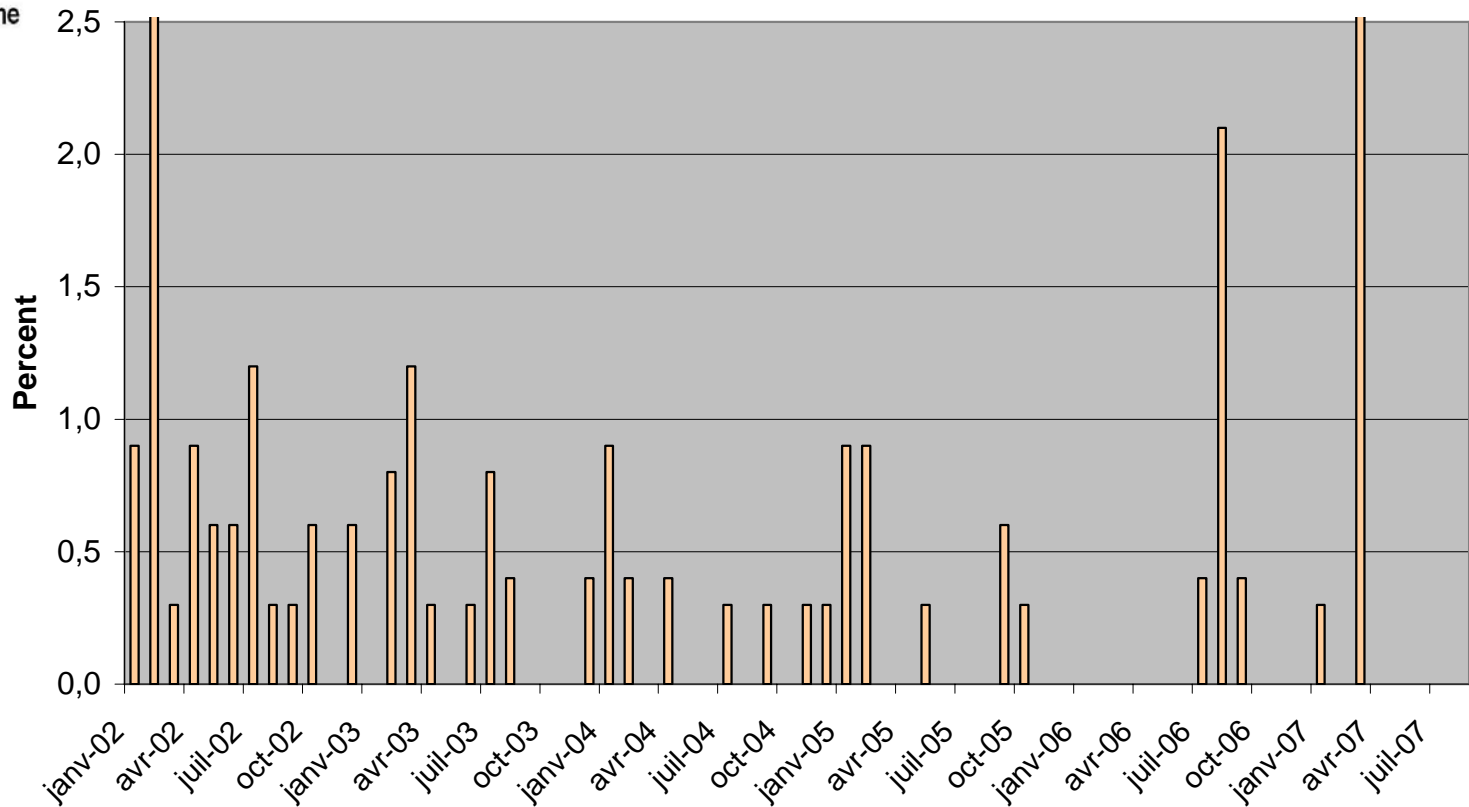


MB ESURFMAR Data Quality



Surface Marine Programme

K-pattern EUCOS moored buoys (K5, M1 then M6 and Lion)
Data quality - Gross Errors of differences with the French model outputs

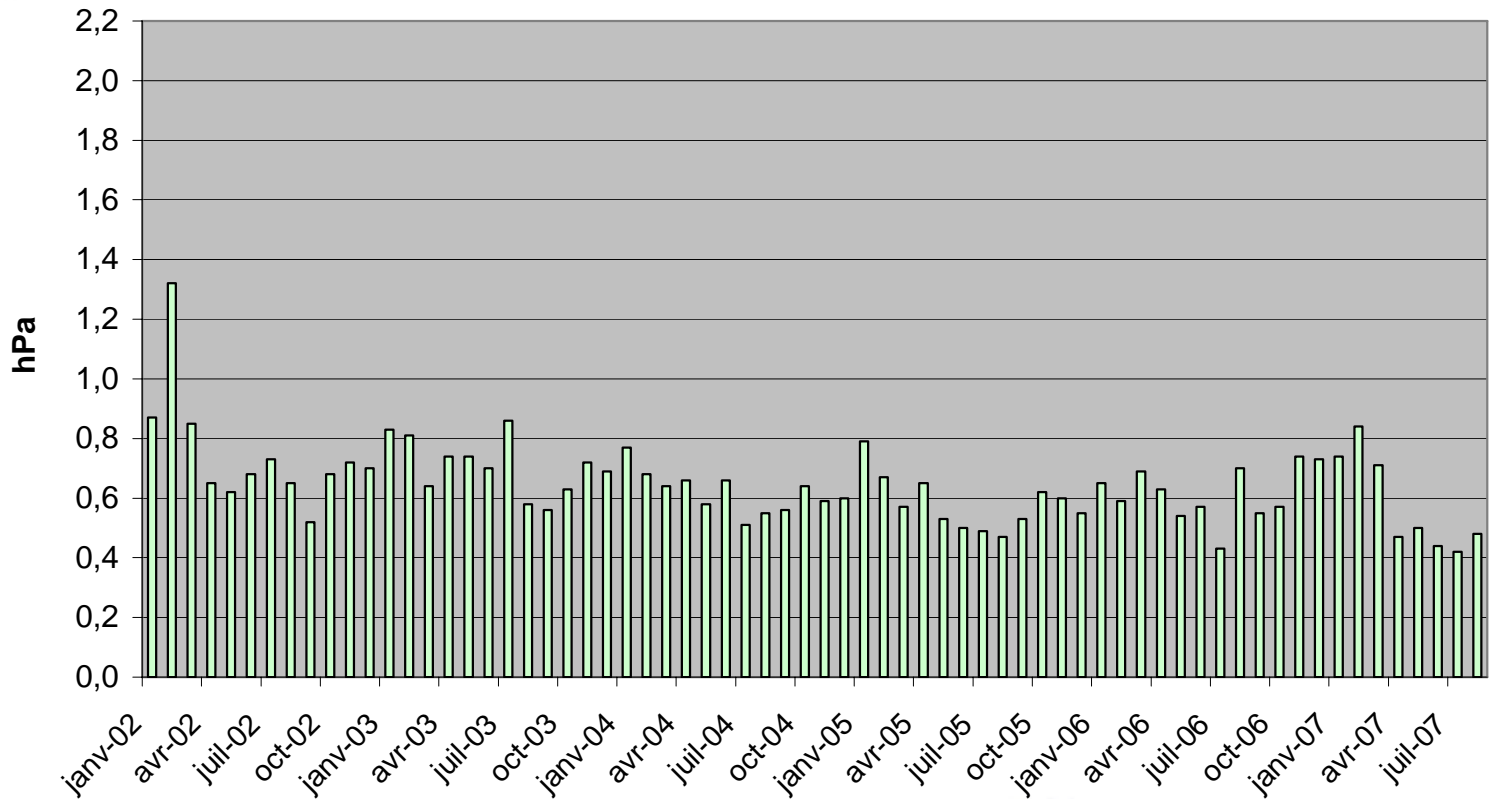


MB RMS



Surface Marine Programme

Twelve former EUCOS moored buoys - Data quality RMS of differences with the French model outputs

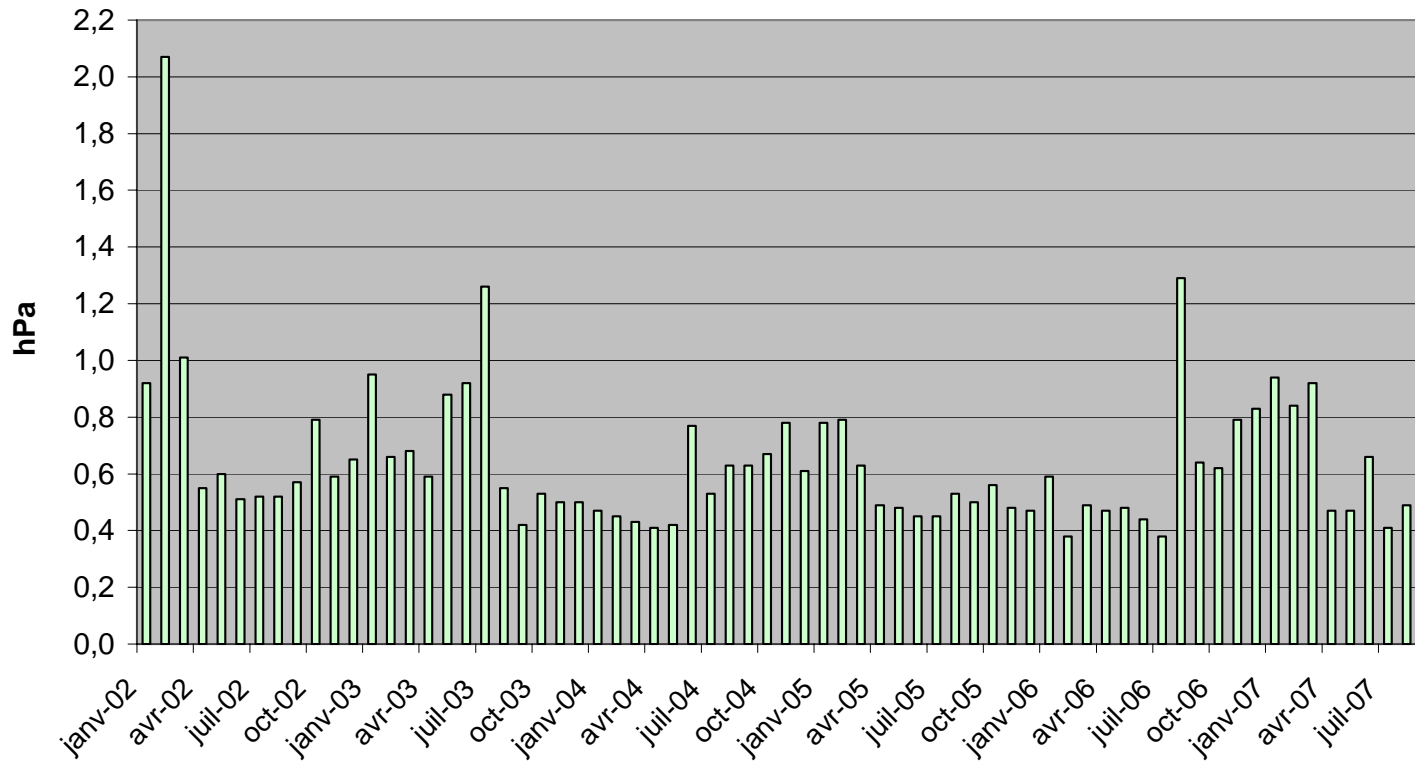


MB RMS ESURFMAR

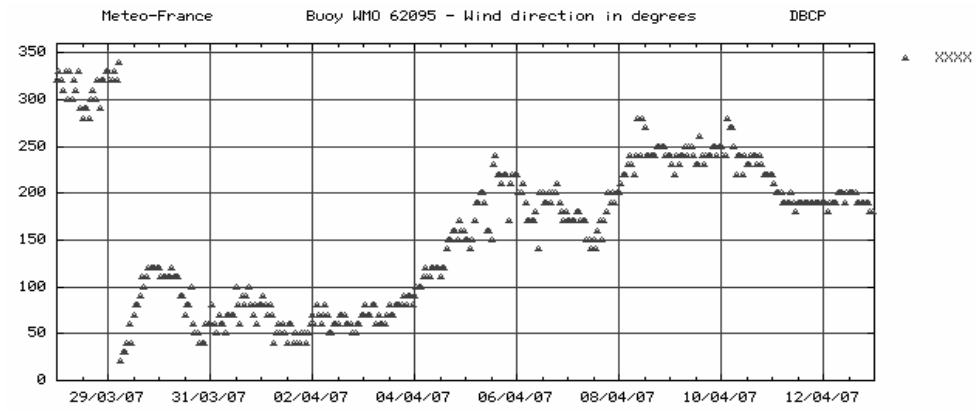
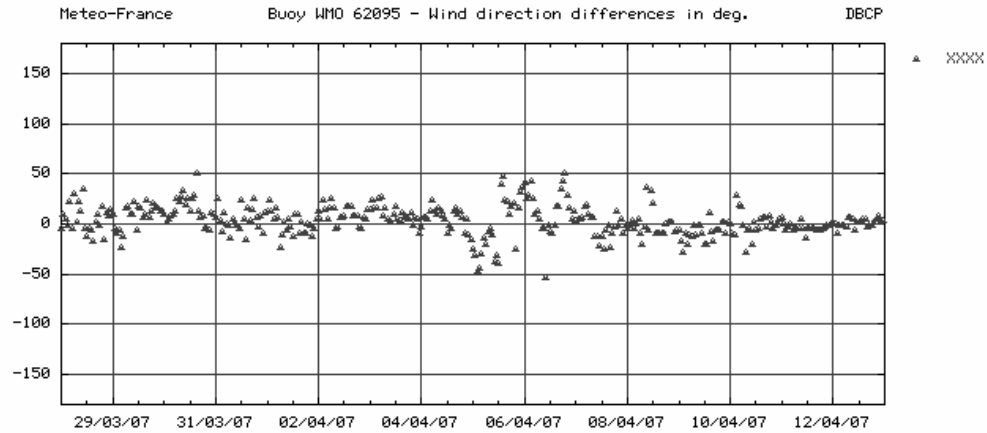


Surface Marine Programme

K-pattern EUCOS moored buoys (K5, M1 then M6 and Lion)
Data quality - RMS of differences with the French model outputs



MB data quality control



E-SURFMAR Programme

Data Buoys Reporting



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

<http://esurfmar.meteo.fr/>

- ✓ A public website

<http://www.eucos.net>



METEO FRANCE

Toujours un temps d'avance