

**REPORT BY THE DBCP ACTION GROUPS TO THE
TWENTY-NINTH SESSION OF THE DBCP**
(Paris, France, 23-27 September 2013)

1) Summary

Name of Action Group	Operational Service of the Network of European Meteorological Services, EUMETNET (E-SURFMAR)
Date of report	31 July 2013
Overview and main requirements addressed	The EUMETNET operational service E-SURFMAR is an optional programme involving 19 out of the 29 EUMETNET members, who fund the activity on a GNI basis. Its main objectives are to coordinate, optimise and progressively integrate the European meteorological services activities for surface observations over the sea – including drifting and moored buoys, and voluntary observing ships. E-SURFMAR is responsible for coordination of buoy activities carried out by the European meteorological services, and the programme supports a Data Buoy Manager (DBM) to manage these activities. The DBM is supported and advised by the E-SURFMAR Expert Team-Data Buoy (ET-DB). E-SURFMAR ET-DB is an action group of the DBCP.
Area of interest	Ocean areas potentially affecting NWP over European countries. This covers the North Atlantic Ocean north of 10°N and the Mediterranean Sea (90°N-10°N; 70°W - 40°E).
Type of platform and variables measured	<u>Drifting buoys</u> : air pressure, SST, (wind) <u>Moored buoys</u> : air pressure, wind, air temperature, SST, waves (directional spectra), relative humidity.
Targeted horizontal resolution	250 km x 250 km, >100 drifting buoys, 4 moored buoys for satellite calibration/validation.
Chairperson/Managers	Manager E-SURFMAR: Mr Pierre Blouch, Météo-France Chairperson, Expert Team-Data Buoy (ET-DB): Mr Jon Turton, UK Met Office
Coordinator	Data buoy Manager: Mr Jean Rolland, Météo-France
Participants	Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxemburg, The Netherlands, Norway, Portugal, Serbia, Spain, Sweden, Switzerland, and the United Kingdom.
Data centre(s)	Météo-France as SOC ISDM (Canada) as RNODC/DB
Website	http://www.eumetnet.eu/ , http://esurfmar.meteo.fr (restricted working area web site for E-SURFMAR participants)
Meetings	ET-DB meets once a year. ET-DB10 Oslo 12-13 June 2013
Current status (mid-2013)	113 E-SURFMAR drifting buoys in operation (86 Iridium, 25 Iridium upgrades +1 Argos upgrade + 1 ICEB) + 44 others reporting AP. 4 E-SURFMAR supported moored buoys in operation, plus a further 40 others operated by members.
Summary of plans for 2014	Maintain a network of 100 drifting buoys, and the 4 reference moored buoys in operation.

2 Deployment plans for 2014

The drifting buoys will be deployed from various locations (Canada, Iceland, France, Norway, UK, USA, ...) in the Atlantic Ocean. Drifters from GDP are regularly upgraded with barometers and deployed in the North Atlantic Ocean by vessels plying from North America to Iceland, from North America to Europe and from Europe to North America. Within the allocated budget more than 100 buoys (including 30 upgrades (Iridium)) will be deployed in the E-SURFMAR area of interest in the coming twelve months. New deployment routes will be investigated.

E-SURFMAR will continue to be involved in the GHRSSST/DBCP Pilot Project in which the DBCP collaborates with the Group on High Resolution Sea Surface Temperature (GHRSSST) to make measurements of 0.01°C precision from drifters.

E-SURFMAR will continue to deploy buoys in the Arctic Ocean through IABP.

The 4 E-SURFMAR moored buoys K5 (59.1N – 11.5 W), M6 (53.1N – 15.9W), Cabo Silleiro (42.1N – 9.4W) and Lion (42.1N – 4.7E) are operated by United Kingdom, Ireland, France and Spain. At present, Cabo Silleiro, K5 and Lion are equipped to report directional wave spectra. Spectra data from K5 and Lion are disseminated on GTS by the Met Office. It is expected that a version of the system developed by the Met Office for K series buoys will be also installed on M6 in due course.

3 Data management

3.1 Distribution of the data

3.1.1 Data policy

ESURFMAR encourages free and open access to data, in the spirit of WMO data exchange policy defined in WMO Congress Resolution 40 (Cg-XII). All basic meteorological and oceanographic data are coded in the appropriate WMO code forms and disseminated on the WMO Global Telecommunication System (GTS)

3.1.2 Real-time data exchange

All the data are put on the GTS as quickly as possible.

The processing chain at Météo-France producing GTS reports from Iridium SBD data was consolidated. The chain is able to produce FM13-SHIP, FM18-BUOY or FM94-BUFR messages. The distribution of BUFR messages allows to transmit the data of the drifters having a resolution of 0.01K for SST.

Ninety nine percent of drifters operating are now using Iridium. This improves the data timeliness (see Annex). The number of daily observations carried out on to the GTS has now increased from about 2,000 to more than 2,800. The target (90%) of the percentage of data received within 50 minutes was maintained. This results from efforts made during recent years to have all buoys reporting through Iridium.

The mean lifetime (for Air Pressure) of the SVP-B drifters decreased to 253 days (273 days last year). Ninety three buoys failed to report air pressure measurements.

The availability of moored buoy data depends on the number of buoys operating. More than 90 hourly observations per day have been reported from E-SURFMAR buoys to the GTS.

Since buoy Cabo Silleiro was taken into account in the performance computations, the percentage of EUCOS moored buoys data available within 50 minutes dropped from 100% to 75% i.e. below the target of 90%. The problem of timeliness was resolved by Spain (in June 2013) and the delays are now by 20-40 minutes.

3.1.3 Delayed mode data exchange

The raw data from drifters are archived at "Centre de Meteorologie Marine" (CMM) at Meteo-France.

Data inserted onto the GTS are routinely archived by various centres (for drifting buoys ISDM, GDP, Coriolis..., Meteorological Services for drifting and moored buoys).

Archived data from drifters are also used to produce surface currents deduced from the buoys movement on a weekly basis

The metadata collection system at JCOMMOPS is used for drifting buoys.

The agreed (DBCP) content (ver1) for moored buoy (MB) metadata is given at <http://www.jcommops.org/dbcp/data/metadata.html>. The intention being that the MB metadata will be compiled by the buoy operators and submitted to JCOMMOPS who would make it available to users. Although netCDF format has been suggested for upload of the metadata to JCOMMOPS, many users would prefer an alternative (simpler) format.

3.2 Data quality

The web page giving access to the Quality Control (QC) tools was maintained. The transmission delays onto the GTS are monitored (see <http://www.meteo.shom.fr/qctools>). Monthly statistics and 14-day graphs are available for all surface marine observations through the same interface. Buoys reporting in BUFR are monitored as those reporting through BUOY or SHIP alphanumeric messages. The blacklists, automatically issued for air pressure every day, are used to identify and correct potential problems.

For drifters the Air Pressure (AP) differences from the French model outputs the target of 1% of Gross Errors was achieved except in December 2012. The RMS of AP differences still has a seasonal variation, being higher in winter than in summer.

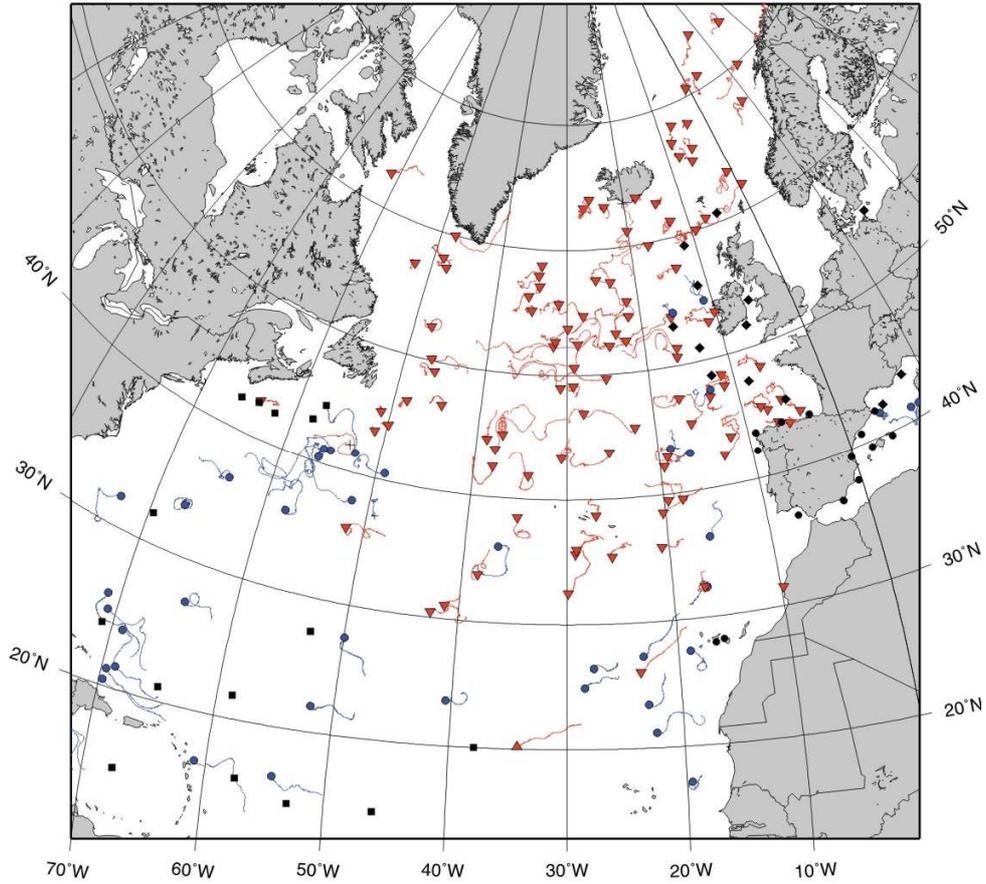
For moored buoys the Air Pressure (AP) differences with the French the target of 0.5% of Gross Errors was achieved except in December 2012. The RMS of AP differences are about 0.6 -0.8 hPa.

4) Instrument practices

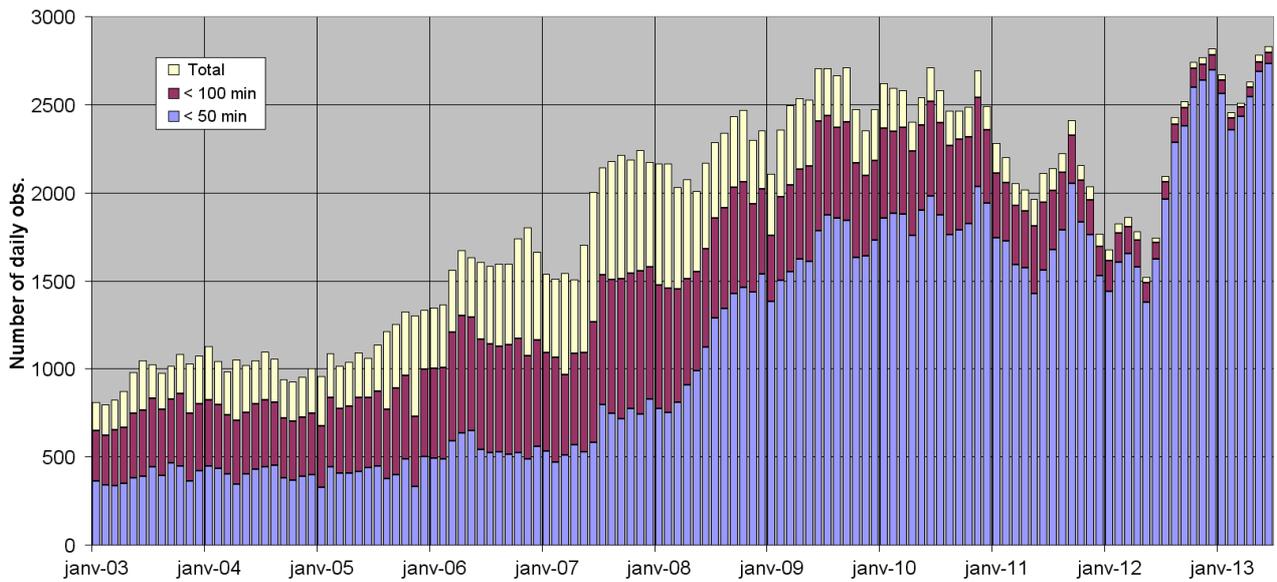
ESURFMAR drifting buoys uses recommended DBCP formats (DBCP-M2 for Argos, formats published on Iridium PP website for Iridium).

A technical document on E-SURFMAR moored buoys was issued.

Annex



Drifting buoy trajectories and moored buoy positions
(June 2013)



Drifting buoys data availability