



EUMETNET

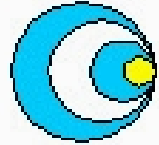
The Network of European Meteorological Services



THE EUCOS OPERATIONAL PROGRAMME

Jim Caughey - EUCOS Programme Manager





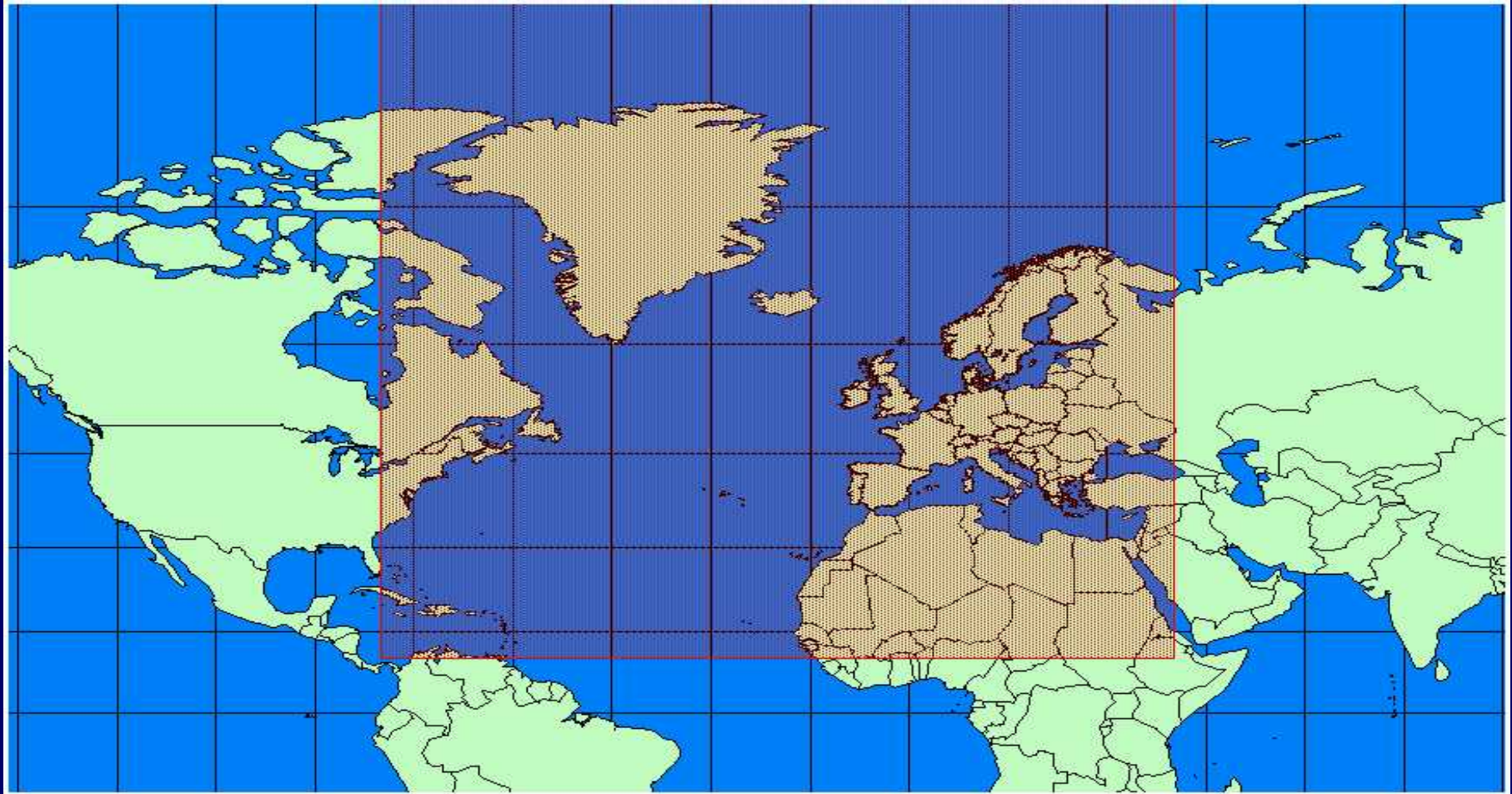
EUMETNET

The Network of European Meteorological Services

- A network grouping 18 European NMS's
- Provides a framework for co-operative programmes relating to:
 - **observing systems**
 - data processing
 - basic forecasting products
 - research and development
 - training
 - Climate (ECSN)
- Aims to:
 - develop the collective capability of EUMETNET Members
 - deliver to all European users the best available quality of meteorological information
 - management collective resources more efficiently



EUMETNET Composite Observing System



10N-90N, 70W-40E



A backbone of observation for applications over Europe

Medium and extended range weather prediction over the Globe

Contributes to

EUCOS :
GNWP over Europe

Provides a framework for

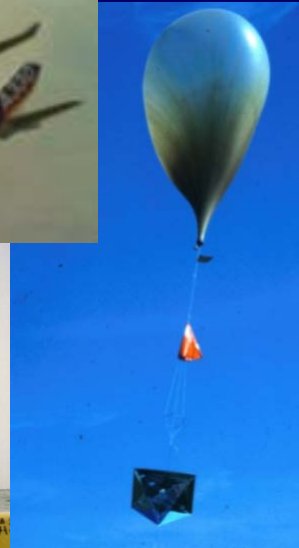
Very short range and nowcasting over national territories



EUCOS, complement of the space segment



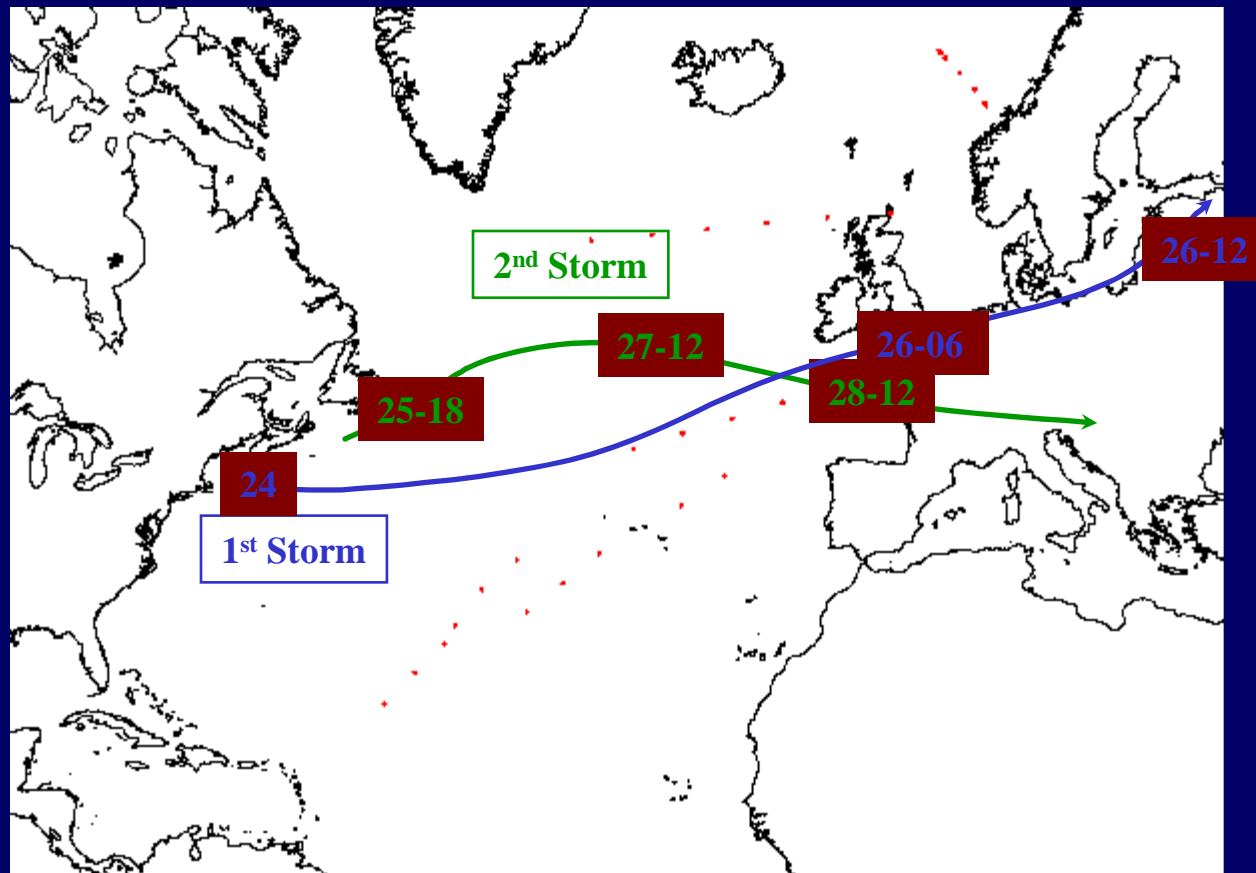
86 MEuro /Yr



80-90 MEuro /Yr

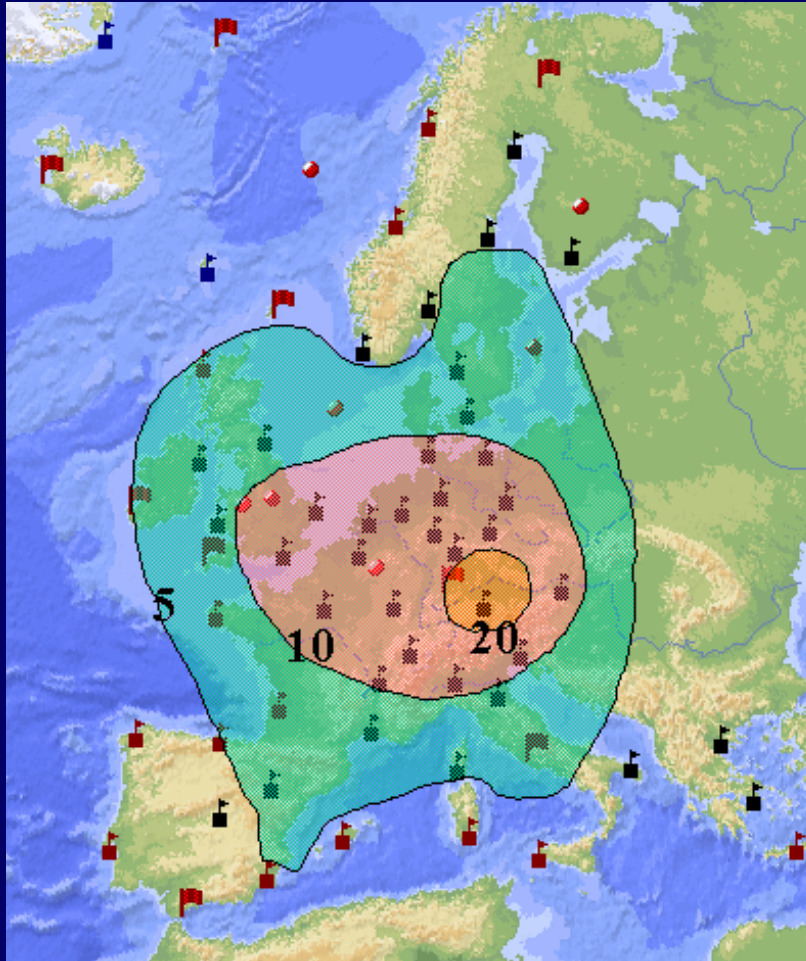


Current oceanic undersampling





Current continental oversampling



- Number of RS stations within 500 km distance of any of those included in the EUCOS network;
- Includes non EUCOS designated stations
- Enables participants to identifies where it may be possible to relax the network...



The Strategy for EUCOS

- The objective of EUCOS is to improve the quality and make more cost-effective GNWP at European scale.
- EUMETNET Members commit themselves to maintaining at least the minimum network resulting from the optimisation process.
- A fair cost sharing system should be established, leaving freedom for Members to take national decisions, when necessary.



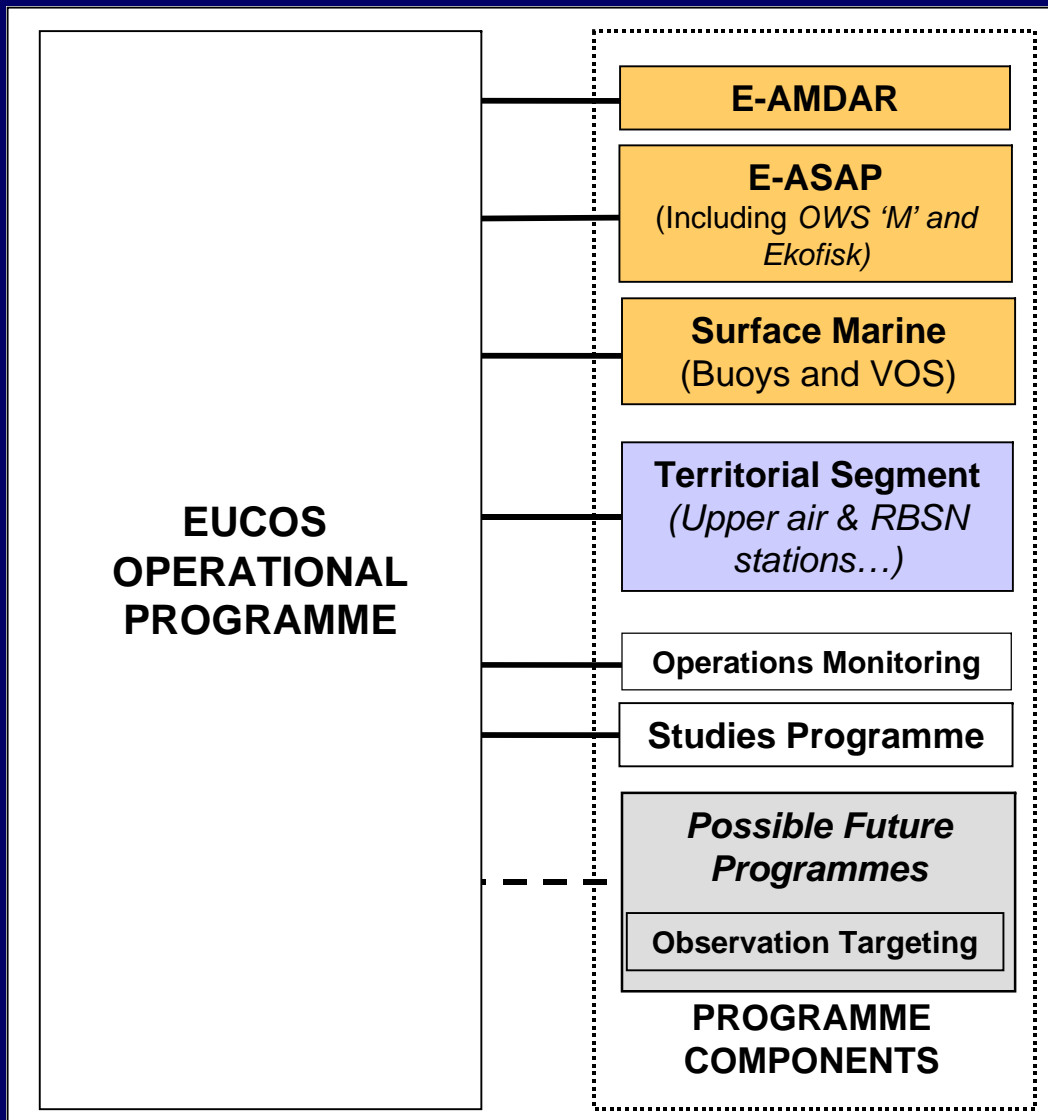
EUCOS Operational Design

		2001 (RBSN, COSNA)	2006 (EUCOS)
Oceanic Segment	Ocean platforms	OWS "M" (4 RW/day) and Ekofisk rig (2RW/day) (2190 TEMP/yr)	
	ASAP units	10 operated by Members and E-ASAP, producing 3000 TEMPSHIP/yr	18 units operated by E-ASAP producing 6000 TEMPSHIP/year
	Data Buoys	Yearly deployment of 50 (TBC) drifting buoys operated under EGOS	
	Moored buoys	Buoys off the Atlantic and Mediterranean continental shelf (TBD)	
	Ships	Maintain the present level (1 700 VOS – TBD)	
Aeronautic Segment	AMDAR units	140 units operated by Members 10 000 000 msgs/yr	150 to 200 units operated by E-AMDAR 15 000 000 msg/yr
Territorial Segment	Radiosonde Stations	69 stations 19 with 4 RW/day 63 510 TEMP/yr	46 stations 34 with 4 RW/day target req 59 130 TEMP/yr target
	Surface Stations	359 RBSN stations	(TBD) RBSN stations fully automated
Observation targeting	ASAP, AMDAR, BUOYS		Season and area variable deployment and activation
	Other systems		TBD, according results of studies



EUCOS Objectives 2002-2006

- IMPLEMENT THE EUCOS NETWORK SCENARIO
- MONITOR, CONTROL AND REPORT ON EUCOS PERFORMANCES
- SUPPORT EVOLUTIONS THROUGH A STUDIES PROGRAMME



Surface Marine

- voluntary observing ships
- drifting and moored buoys



The Oceanic Upper-air Segment



E-ASAP Programme Manager
Klaus Hedegaard (DWD)



E-ASAP

PB-OBS ASAP Objectives

- Reach a total of **18 ASAP units producing 6,300 soundings per year**
- **Contribute to WWW**
- **Optimise** the overall system
- **Reduce the average cost** per ASAP profile
- **Maintain** and (if necessary) replace the major components



The Aeronautical Segment



EUMETNET-AMDAR

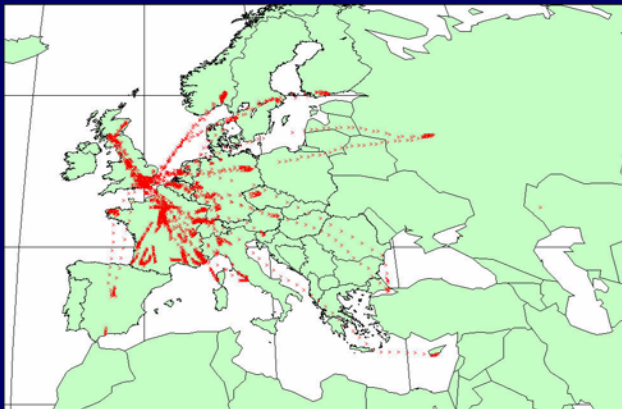
E-AMDAR Programme Manager
Ture Hovberg (SMHI)



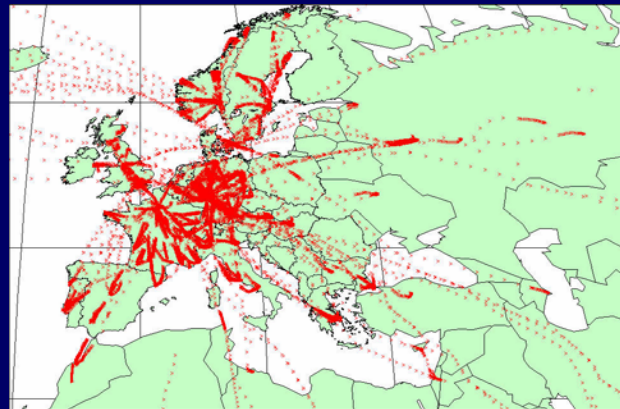
E-AMDAR Currently

Since E-AMDAR was established at the beginning of 1999:

- AMDAR aircraft numbers have increased by 440% (from 113 to more than 600)
- Flexible systems have been developed to monitor, process and control AMDAR data
- The average observation cost has been reduced by approximately 40%



Typical daily
coverage - 1999



Typical daily
coverage - 2002



E-AMDAR Development

Description	2003	2004	2005	2006
Number of Airports observed daily (within EUCOS area)	100	110	125	140
'3 hourly' locations (Configured to complement EUCOS radiosonde stations)	25	28	32	35
Number of Profiles (within EUCOS area)	560	620	680	740
Data Over Sensitive EUCOS Areas (Percentage of resources devoted)	15%	19%	24%	30%
WWW Contribution (Resources devoted to data acquisition outside of the EUCOS area)	5%	7%	9%	10%
AMDAR Observations (Annual Total)	8 million	9.5 million	11 million	13 million



EUCOS STUDIES PROGRAMME

2002-2004 Plan



EUCOS Studies Programme

Planned OSEs

- Targeted observing
- Benefit of high frequency AMDAR profiles
- Surface Marine Data



EUCOS Optional Programme for Surface Marine



Commenced 1st April 2003 - Pierre Blouch PM



Surface Marine Programme

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Surface Marine Programme Proposal

The Programme will be divided into two clear stages, each with a duration of 2-years.

Stage 1 (2003 - 2004)

Principal Objective: agree the EUCOS Surface Marine Network design and management structure.

Stage 2 (2005 - 2006)

Principal Objective: Implement the EUCOS Surface Marine Network design.

A general objective for stages 1 and 2 is to establish formal links with other international programmes



Surface Marine Programme

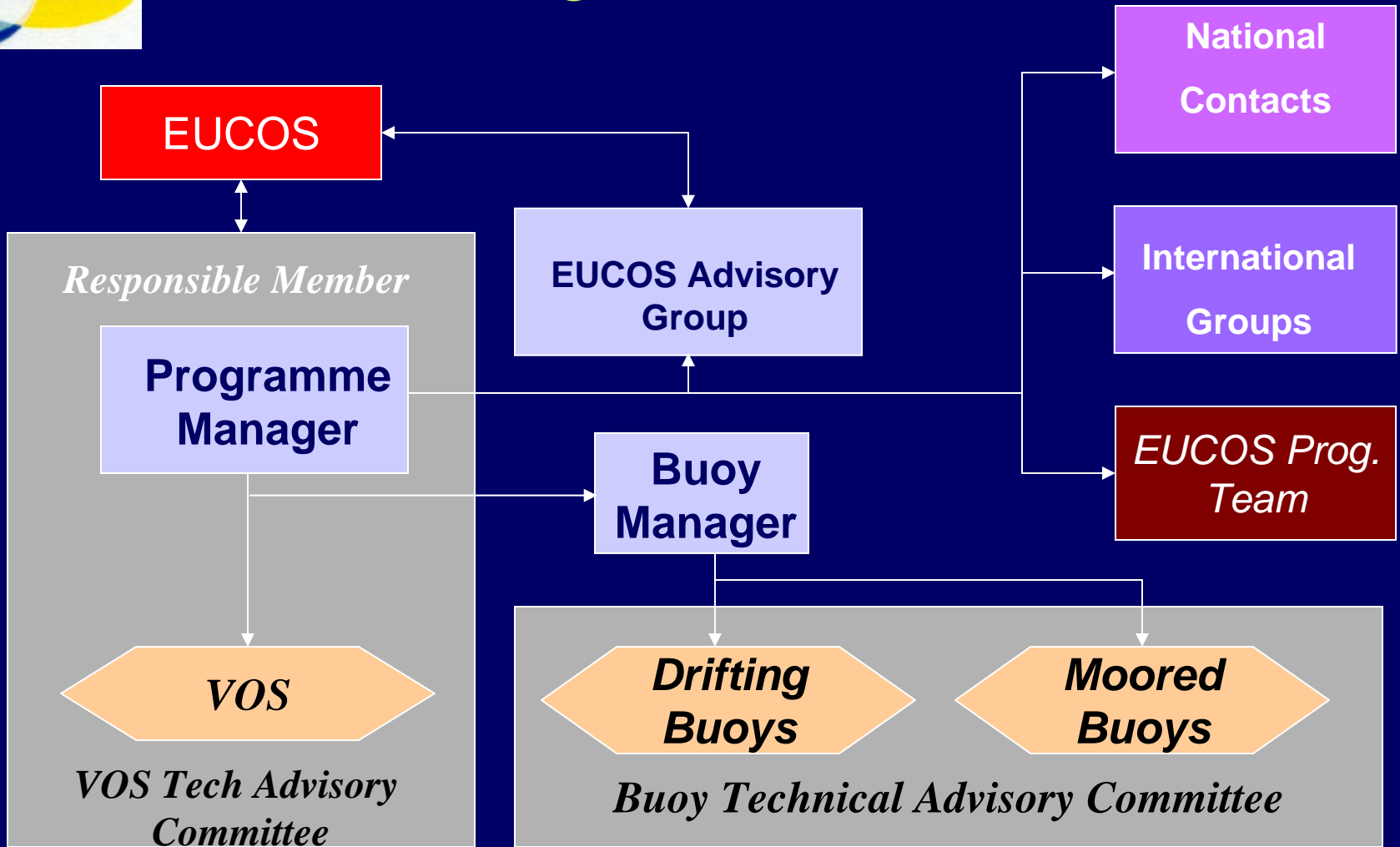
Programme Scope

The following surface marine activities are initially included:

- All Selected, Supplementary and Auxiliary VOS Ships (approx. 1700 ships)
- Moored and drifting buoys which satisfy the following criteria:
 - (i) Drifting buoys that contribute to the EGOS programme
 - (ii) Moored buoys that are currently located off the Atlantic continental shelf and in the Mediterranean, and contribute to the EGOS programme
- Additional open ocean buoys subsequently approved by PB-OBS for inclusion in the Programme



Envisaged Structure





Surface Marine Programme

Benefits

- Will provide an optimal surface marine component in support of GNWP and the space segment
- Ensures co-ordination of the VOS (Significant efficiency savings are possible)
- Effective linkages between EGOS and EUCOS will ensure that buoy deployments are:
 - Better aligned with the evolving scientific requirement
 - Harmonised with the availability of VOS data
- Will help ensure the future stability of surface marine measurements in the Atlantic and Mediterranean



EUCOS VOS

Formation of VOS TAC

- European focal points identified
- VOS Technical Advisory Committee formed (VOS TAC)
- 1st Meeting planned Autumn 2003

Main Tasks - VOS TAC

- Equitable compensation arrangements
- Information exchange
- Quality control
- Ship recruitment
- Automation
- Monitoring information available at <http://www.meteo.shom.fr/vos-monitoring>