

VOS and VOSClm Report for 2009

United Kingdom

a. Programme description:		
Category	No. of ships at 31 Dec 2009	Comments
<i>Selected</i>	335	Size of selected fleet was further reduced during 2009. Inactive ships are being gradually withdrawn from the fleet. Priority is given to active VOS which can be relied upon to submit regular quality observations and which can, in due course, be upgraded to VOSClm standards. Ships operate in all ocean regions. <i>(Note - Figure includes 12 AWS ships).</i>
<i>Supplementary</i>	Nil	
<i>Auxiliary</i>	Nil	All UK Auxiliary ships were withdrawn from UK Fleet during period 2005 to 2008 (or upgraded to 'Selected' category)
<i>Other (specify)</i>	23	Fixed offshore units, mobile rigs and FPSO's on UK Continental Shelf reporting in SHIP code <i>(see also section i)</i>
Total National VOS Fleet	358	

b. VOS:	
<i>Number of VOS vessels recruited in 2009</i>	6
<i>Number of VOS vessels de-recruited in 2009</i>	37
<i>Target number of ships in the national VOS Fleet</i>	~ 200 active VOS and ~ 50 shipborne AWS within 3 years

c. VOSClm:	
<i>Number of VOSClm vessels at 31 December 2009</i>	51
<i>Number of VOSClm vessels recruited in 2009</i>	0

Number of VOSCLim de-recruitments in 2009	4
Number of VOSCLim recruitments planned for 2010	~30
Target number of ships to participate in VOSCLim	~200

d. Automated observing systems:				
Type	No. of ships at 31 Dec 2009	Manual Input Yes / No	Method of Comms	2010 Planned installations
Minos - GP	5	No	Argos	1 additional systems remains to be deployed but may be retained for spares
MINOS GPW	1	No	Argos	-
BATOS	5 *	Yes	Inmarsat (Data Reporting Service)	No further Met Office owned BATOS systems planned * Figure includes 3 systems installed on behalf of E-SURFMAR on UK VOS
AVOS	0*	Yes	Inmarsat	*Note – AVOS installed by Met Office on mv OOCL Montreal was transferred to Environment Canada in October 2009 due to vessels change of trading route
MILOS/MAWS	-	Yes	Iridium	1 Vaisala MAWS system on test and due to be installed in 2010 subject to available resources
MetPod	1	No	Iridium	Prototype system was under test at sea in 2009, but will be recovered in 2010
Metocean Deck Drifters	2	No	Iridium	Additional 2 deck drifters purchased and planned for deployment in 2010
-	-	No	Iridium	Further autonomous AWS systems are planned in 2010 depending on E-SURFMAR and Met Office requirements

e. Data management:	
<i>Total number of ship observations (BBXX) distributed on the GTS in 2009 (excluding moored buoy Ship coded observations)</i>	65300 – from manually reporting UK VOS 75180 – from Met Office shipborne AWS on UK VOS 10347 – from E-SURFMAR shipborne AWS on UK VOS 10121 – from manually reporting offshore installations <i>(see also section i)</i>
<i>Number of submissions of VOS data to the GCC in 2009</i>	Data submitted to GCC in Edinburgh as soon as received

f. Electronic logbooks: (do not include AWS-based systems)		
Software & version	No. of ships at 31 Dec 2009	Implementation plans
TurboWin Version 4	272*	<p><i>*TurboWin software Version 4 has now been supplied to all ships in UK fleet and dedicated laptops computers loaded with the software currently supplied to 52 ships.</i></p> <p><i>Rollout of latest Version 4.5 will be undertaken on a ship by ship basis during 2010</i></p> <p>Whenever possible and acceptable to shipowners laptop computers are now being removed and TurboWin software loaded on the ship's own bridge computers. (VOS also encouraged to send their TurboWin observations using ships own email systems)</p> <p>A few ships still use earlier version of TurboWin software e.g. when upgrading to version 4.0 is prevented by ships own IT security restrictions</p>
BATOS Version 3.6	5*	<p>In use on active BATOS AWS systems (automatically records measured parameters and also allows visual observations to be manually added). One further system to be activated in 2009</p> <p>* includes 3 Batos systems funded by E-SURFMAR and deployed on UK VOS</p>
MetPod	1	To be withdrawn in 2010, when new autonomous systems become available

g. Major challenges and difficulties:

- **The Economic downturn and shipping recession during 2009 has had a marked impact on the number of observations available from manually reporting UK VOS. In particular many previously active container ships were laid up during 2009, and were unable to report**
- **At the end of 2009 a total of 34 UK VOS were sending their observations using masked call signs (for a variety of commercial, legal, and security reasons). In addition the 14 automated systems currently active in the UK fleet also transmit using masked call signs.**
- **A large percentage of the UK Voluntary Fleet is trading on a worldwide basis and, as a consequence, it is often difficult to ensure routine inspection of these ships without the assistance of overseas PMO's. Each year there can be as many as 150 ships in the UK fleet that we are unable to inspect for this reason; annual Muster letters or emails are sent to each of these ships to determine the condition of their instruments and to request the download of TurboWin log files. Failure to routinely visit recruited ships has implications for the quality of the observations and for the ongoing training of the observing officers.**
- **Observations sent via Goonhilly Land Earth Station are monitored on a monthly basis for transmission and coding errors. Where these involve UK ships they are followed up with the ships concerned. Details are also promulgated internationally via the JCOMMOPS mailing lists**
- **Met Office requirements for the encryption of data held on laptop computers have had an impact on our ability to loan such computers to ships in future. As a consequence we will in future only aim to recruit ships that are willing to load the TurboWin software on the ships own bridge computers. Existing loaned laptops will be withdrawn**
- **Data Protection concerns have been expressed by some ships officers about the use of their personal data recorded in the TurboWin program. This could have implications for VOS award schemes**
- **Tracking down non active observing ships and recovering their equipment can be a time consuming task and some equipment has had to be written off when ships have gone to scrap without giving prior notice. The Dirkzwager Ship2Report system helped with tracking these ships during 2010**
- **Stocks of Precision Aneroid Barometers currently on board UK VOS are starting to decline. As these barometers are now obsolete they will be gradually withdrawn from use on manually reporting VOS and replaced by new digital devices (subject to budgetary constraints).**

h. Research / development / testing:

- **EU restrictions on the export and sale of mercury will present a major challenge over the next couple of years. Investigations into the use of alternative digital thermometry are in hand and the phased withdrawal of mercury in glass thermometers is likely to start in 2010. To some extent this issue will also be resolved with the phased introduction of shipborne AWS**
- **Trials of shipborne AWS systems undertaken by the Met Office in 2007/8 identified a need to develop a new modular design of basic AWS system that is independent of the ships systems and which would require minimum technical involvement whilst in service. This work has now been progressed within the E-SURFMAR Task Team on AWS who have developed recommendations and specifications for a future autonomous shipborne AWS system. It is hoped that a tender for the use of such systems on E-SURFMAR ships will be issued at the end of 2010**
- **In addition to the AWS trials we have also been trialling the use of 'deck drifters' on a couple of our VOS. These are essentially SVP-B type drifting buoys with the drogues removed and the air temperature sensor disabled, so that they only report hourly pressure values via Iridium. These systems have proved to be a reliable and simple method of providing pressure data on ships operating both internationally and in coastal UK waters**
- **The Met Office continues to assist KNMI with its ongoing efforts to enhance the TurboWin logbook software and provided detailed input to the recently released Version 4.5. We also hope to assist with trials of the new web based version of the software**
- **The Dirkzwager Ship2report system is now in use by all UK PMOs. This system has proven to be a valuable tool for tracking ships that need to be withdrawn or which need to be visited to resolve quality issues**

i. Other comments:

- **The goals and objectives for the UK voluntary fleet are also considered within the wider context of the Eumetnet Surface Marine Programme (E-SURFMAR) which aims to optimise the surface-marine observations from VOS, moored and drifting buoys. Closer cooperation and integration with other European VOS networks will hopefully reduce unnecessary duplication of effort, and permit objectives to be delivered in the most cost-efficient manner**
- **Drifting buoys are routinely deployed from UK observing ships on behalf of the E-SURFMAR Programme, and also for the UK contribution Global Drifter Programme in the Southern Oceans. UK VOS are occasionally also used for ARGO Float deployments**
- **In addition to the VOS observation numbers in this report, the Met Office also has access to third party data from a further ~37 offshore platforms that host automatic weather stations – which amounted to approx 290000 observations in 2009. Because these automatic stations are not owned or operated by the Met Office, they have not been counted in the above figures**