

## VOS Report for 2011

## United Kingdom

a. Programme description:				
Category	No. of ships at 31 Dec 2011	Recruitments in 2011	De-recruitments In 2011	Comments
<i>Selected</i>	136	4	37	Size of selected fleet was further reduced during 2011. Inactive ships are being gradually withdrawn from the fleet and all suitable ships upgraded to VOSClim standards. Ships operate in all ocean regions.
<i>Selected AWS</i>	1*	0	0	*UK VOS that hosts an E-SURFMAR funded BATOS AWS
<i>VOSClim</i>	155	16*	1	Significant number of additional ships upgraded to VOSClim standard in 2011. Target is to achieve a level of 200 manually reporting VOSClim ships within next 2 years *Note – 16 recruitments to VOSClim relates only to new recruits. A further 45 selected ships were upgraded to VOSClim standard
<i>VOSClim AWS</i>	3	0	1*	(Excludes two UK VOSClim AWS ships recruited to E-SURFMAR) * One VOSClim AWS ship was fitted with an autonomous AWS system in place of the previous Integrated AWS and therefore became a Supplementary AWS ship
<i>Supplementary</i>	0	0	0	-
<i>Supplementary AWS</i>	26	18	3	Rollout of Met Office AMOS AWS systems started in earnest this year - Primarily aimed at ships operating in UK or near continental waters. Plans to roll out further Supplementary AWS during 2012 and in due course replace previous AWS systems
<i>Auxiliary</i>	0	0	0	All UK Auxiliary ships were withdrawn from UK Fleet during period 2005 to 2008 (or upgraded to 'Selected' category)
<i>Auxiliary AWS</i>	0	0	0	-
<i>Other</i>	11*	0	3	Fixed offshore units, mobile rigs and FPSO's on UK Continental Shelf reporting in SHIP code * 3 additional rigs are stacked waiting work
<b>National VOS Total</b>	<b>332</b>			

National VOS Target	~270
National VOSclim Target	200

b. Data management:	
<p><i>Total number of ship observations (BBXX) distributed on the GTS in 2011 (Note - excludes moored buoy Ship coded observations)</i></p>	<p>104427– real time observations from manually reporting UK VOS</p> <p>125802 – real time observations from shipborne AWS installed on UK VOS ( excludes observations for 3 E-SURFMAR shipborne AWS installed on UK VOS )</p> <p>8507 – real time observations from manually reporting offshore installations (see also section i for details of third party ship coded data)</p>
<p><i>Frequency of VOS data submitted to the GCC in Year</i></p>	<p>Delayed mode data submitted to GCC in Edinburgh as soon as received</p>

c. Shipboard Automatic Weather System				
Type	No. of ships at 31 Dec 2011	Manual Input Yes / No	Method of Comms	2012 Planned installations
Minos - GP	3	No	Argos	Minos systems gradually being decommissioned and replaced by new Met Office AMOS AWS systems
MINOS GPW	1	No	Argos	“ “ “ “ “
BATOS	4 *	Yes	Inmarsat (Data Reporting Service)	No further Met Office owned BATOS systems will be purchased * Figure includes 3 systems installed on behalf of E-SURFMAR on UK VOS
AMOS	21	No	Iridium (SBD)	Further AMOS systems will be installed during 2012
Deck Drifter (Metocean)	1	No	Iridium (SBD)	drifting buoy without drogue and reporting only hourly pressure

f. Electronic logbooks: (TurboWin, SEAS, OBSJMA)		
Software & version	No. of ships at 31 Dec 2011	Implementation plans
TurboWin Version 4 .0 & 4.1	214	Will be gradually replaced by Version 5 during 2012  Dedicated laptops computers loaded with the software being gradually withdrawn from use (34 supplied in Dec 2011). Whenever possible and acceptable to shipowner's 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)
TurboWin Version 4 .5	34	Rollout of latest Version 4.5 was undertaken on a ship by ship basis ( currently 20 ships)  Will be gradually replaced by Version 5 during 2012
TurboWin Version 5 .0	3	Rollout of Version 5 planned throughout 2012 on a company basis

<p><b>TurboWin Version 3.6</b></p>	<p><b>17</b></p>	<p>TurboWin software Version 4 supplied to all these but confirmation that it is installed still awaited. Will be gradually replaced by Version 5 during 2012</p>
<p><b>BATOS (Version 3.6 and higher )</b></p>	<p><b>4*</b></p>	<p>In use on active BATOS AWS systems (automatically records measured parameters and also allows visual observations to be manually added). * includes 3 BATOS systems funded by E-SURFMAR and deployed on UK VOS</p>

**g. Major challenges and difficulties:**

- At the end of 2011 a total of 38 manually reporting UK VOS were sending their observations using masked call signs (for a variety of commercial, legal, and security reasons). In addition 30 automated systems currently active in the UK fleet also transmit using masked call signs. Use of masked call signs complicates database access and data monitoring procedures
- 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 over 100 ships in the UK fleet that we have been 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. To overcome these problems we have now instigated a remote vetting system whereby each ships is provided with quality monitoring feedback on a quarterly basis, and overseas inspections arranged as needed
- 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 has an impact on our ability to loan such computers to ships. As a consequence we will in future only aim to recruit ships that are willing to load the TurboWin software onto their own bridge computers. Existing loaned laptops will be withdrawn from service
- 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 2011
- 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).
- EU Restrictions on the use, export and transport of mercury thermometry means that alternative organic spirit or digital alternatives will need to be sourced.

**h. Research / development / testing:**

- 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 the near future. To some extent this issue will also be resolved by our plans to increase the use of shipborne AWS
- Trials of the new AMOS shipborne AWS systems developed by the Met Office are continuing and further enhancements and improvements to the design are likely in 2012. A system has been placed on trial at our Camborne trial site in the UK whilst another system is due to be trailed on one of our open ocean moored buoys. Two enhanced AMOS systems are also planned for use on Lake Victoria
- The Met Office is also involved in the development of E-SURFMAR recommendations and specifications for future autonomous shipborne AWS systems for use on its member's ships.
- The Met Office continues to assist KNMI/E-SURFMAR with its ongoing efforts to enhance the TurboWin logbook software and intends to provide input the next release in 2011. We have also been trialling the new web based version of the software – TurboWeb – on a research ship. The system works well and observations are ingested into the KNMI server before being inserted on the GTS
- We have implemented a new system of work for our PMOs whereby each PMO takes responsibility for a set number of shipping companies and ships. Monitoring and other feedback is being provided to ships on a quarterly basis and the activity of our ships is increasing as a consequence. In effect these procedures amount to remote vetting for ships that cannot be physically visited by a PMO in the UK.
- All manually reporting UK VOS are requested to endeavour to return not less than 350 observations per year. Ships which fail to achieve this level are likely to be withdrawn from the fleet or transferred to the new VOS Ancillary Pilot Project if the companies are supportive. Detailed monitoring feedback is provided to participating shipping companies on an annual basis
- Vaisala 330 barometers are increasingly being rolled out to the UK fleet to replace the ageing Precision Aneroid Barometers that have traditionally been loaned to our ships
- A new marine data gateway project is being initiated to more efficiently handle and process the various incoming marine format messages from our buoys, ships and AWS systems

**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 had access to third party data in 2011 from a further ~60 offshore platforms that host automatic weather stations – which amounted to approx 440000 observations. Because these automatic stations are not owned or operated by the Met Office, they have not been counted in the above figures. The volume of such data is gradually increasing due to new guidelines for the availability of meteorological data for offshore helicopter operations