

VOS Report for 2012

United Kingdom

a. Programme description:				
Category	No. of ships at 31 Dec 2012	Recruitments in 2012	De-recruitments In 2012	Comments
<i>Selected</i>	115	16	29	Size of selected fleet was further reduced during 2012. Inactive ships are being gradually withdrawn from the fleet and all suitable ships upgraded to VOSClim standards.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>	165	24*	15	Additional ships upgraded to VOSClim standard in 2012 with a view to achieving a target of 200 actively reporting VOSClim ships * 5 recruitments direct to VOSClim standard and 19 ships upgraded from Selected to VOSClim standard
<i>VOSClim AWS</i>	3*	0	0	*Includes two UK VOS that have been recruited as E-SURFMAR VOSClim AWS ships
<i>Supplementary</i>	0	0	0	-
<i>Supplementary AWS</i>	36	13	4	Continued to roll out Met Office AMOS AWS systems this year and to gradually replace other existing systems with AMOS AWS. Primarily aimed at ships operating in UK or near continental waters. Plan to roll out further Supplementary AWS during 2012 with a target, eventually of 100 systems
<i>Auxiliary</i>	1	1	0	Auxiliary ships were withdrawn from UK Fleet during period 2005 to 2008. However very occasionally the Auxiliary status is used as a pre-cursor to recruitment to 'Selected' category e.g. on a trial basis to confirm the ship willingness to observe
<i>Auxiliary AWS</i>	0	0	0	-
<i>Other</i>	0	0	14	Manually reporting offshore units, mobile rigs and FPSO's on UK Continental Shelf were withdrawn during 2012 prior to the retirement of our Offshore Adviser. The 8 remaining manually reporting rigs have been included with our Selected fleet

National VOS Total	321
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National VOS Target	~300
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National VOSClim Target	200
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b. Data management:	
<i>Total number of ship observations (BBXX) distributed on the GTS in 2012 (Note - excludes moored buoy Ship coded observations and observations from manually reporting offshore rigs and platforms)</i>	105717– real time observations from manually reporting UK VOS & VOSClim ships (increased by over 1000 since 2011) 227671 – real time pressure observations from shipborne AWS installed on UK VOS (excludes observations for 3 E-SURFMAR shipborne AWS installed on UK VOS). Figure has increased by more than 100000 since 2011
<i>Frequency of VOS data submitted to the GCC in Year</i>	Delayed mode data submitted to GCC in Edinburgh as soon as received

c. Shipboard Automatic Weather System				
Type	No. of ships at 31 Dec 2012	Manual Input Yes / No	Method of Comms	2012 Planned installations
Minos - GP	2	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)	Batos systems gradually being decommissioned and replaced by new Met Office AMOS AWS systems * Figure includes 3 systems installed on behalf of E-SURFMAR on UK VOS
AMOS	33	No	Iridium (SBD)	Further AMOS systems will be installed during 2012-14 with a view to eventually recruiting ~100 systems
Deck Drifter (Metocean)	0	No	Iridium (SBD)	Last deck drifter failed in August 2012. No plans to purchase further deck drifters

f. Electronic logbooks: (TurboWin, SEAS, OBSJMA)		
Software & version	No. of ships at 31 Dec 2012	Implementation plans
TurboWin Version 4 .0 & 4.1	159	<p>Will be gradually replaced by Version 5 during 2013</p> <p>Note - Dedicated laptops computers loaded with the software being gradually withdrawn from use (18 remaining in Dec 2012). Whenever possible and acceptable to shipowner's laptop computers are now being removed and TurboWin software loaded on the ship's own bridge computers.</p> <p>Note – 96 VOS are now using ships own email systems to send their TurboWin observations</p>

TurboWin Version 4.5 & 4.6	38	Will be gradually replaced by Version 5 during 2013
TurboWin Version 5 .0	64	Version 5 gradually rolled out on a case by case basis throughout 2012
TurboWin Version 3.6 or earlier	2	Ships that have been difficult to contact/upgrade to newer versions
BATOS (Version 4.3+)	4*	<i>* includes 3 BATOS systems funded by E-SURFMAR and deployed on UK VOS</i>
AMOS		

g. Major challenges and difficulties:

- 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 up to 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. Quality monitoring feedback is also provided by PMOs on a quarterly basis. However, failure to routinely visit recruited ships has implications for the quality of the observations and for the ongoing training of the observing officers.
- At the end of 2012 a total of 44 manually reporting UK VOS were sending their observations using masked call signs (for a variety of commercial, legal, and security reasons). In addition 40 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
- Observations sent via Goonhilly Land Earth Station are monitored on a monthly basis. Such monitoring often reveals transmission and coding errors. Where these involve UK ships they are followed up with the ships concerned. For non UK VOS details are promulgated internationally via the JCOMMOPS mailing lists
- The increased use of ships own email to send observations has many benefits, including cost savings. However we are noting that several ships are now changing their email settings on TurboWin which can prevent the observations from automatically passing through our message switching systems. Routine monitoring is therefore required to check that observations are not being lost due to changes made on board
- 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 now only recruit ships that are willing to load the TurboWin software onto their own bridge computers. Existing loaned laptops are being 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 has helped with tracking some of these ships. However concentrating on a smaller number of major shipping companies and establishing closer links with these companies can help with the recovery of equipment
- 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 in the coming years.

h. Research / development / testing:

- Trials of the new AMOS shipborne AWS systems developed by the Met Office are continuing and further enhancements and improvements are planned for 2013. A system has been placed on trial at our Camborne trial site in the UK whilst another system has been successfully trailed on one of our open ocean moored buoys. Two enhanced AMOS systems are also planned for use on Lake Victoria. A trail system has also been placed on a Hong Kong VOS ship
- A new Met Office 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
- Investigations into the use of digital thermometry are continuing with a view, eventually, to a phased withdrawal of mercury in glass thermometers. Hand held sensors have been loaned to a research ship to trial. However, to some extent this issue will also be resolved by our plans to increase the use of shipborne AWS
- The Met Office continues to assist KNMI/E-SURFMAR with its ongoing efforts to enhance the TurboWin logbook software. 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 has increased 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 oracle based database is being developed for recording UK VOS inspection data and metadata.

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 2012 from a further ~60 offshore platforms that host automatic weather stations – which amounted to more than 487000 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 has increased significantly due to new guidelines for the availability of meteorological data for offshore helicopter operations