

APPENDIX A

REPORT BY THE TASK TEAM ON VOS RECRUITMENT AND PROGRAMME PROMOTION

Status of Action Items from SOT III for TT on VOS Recruitment and Programme Promotion

1/ 4.1.6 International Newsletter to be kept under review

This was also discussed at PMO-III, Hamburg, March 2006. Action Item No 20 from PMO-III invited member countries to volunteer to publish a SOT newsletter on behalf of the TT. In view of limited resources to prepare and publish a SOT newsletter, it was agreed that newsworthy material could be placed on the Wiki website hosted by E-SURFMAR for use by any NMS that publishes a marine-based newsletter. The cover page for the repository of articles is

http://esurfmar.meteo.fr/wikisurf/index.php/Marine_Observing_Articles

and authors are invited to contact Pierre Blouch at Meteo France.

III/ A4.2.4 Tools developed by the TT (eg flyer, PowerPoint presentation) be used to promote VOS thro shipping companies

These tools are all available on the VOS website for promotional use

<http://www.bom.gov.au/jcomm/vos/resources.html#operational4>

III A/4.5.3 VOSP to provide VOSP Chair with list of improvements to the Marine Meteorological Services monitoring questionnaire to be passed to ETMSS for inclusion in the next questionnaire.

The update of the questionnaire was completed and sent to Henri Savina, Chair of ETMSS on 30 August 2006 for consideration at ETMSS-II.

Progress by TT on Tasks defined at SOT III

Five tasks were identified for the TT to progress, these are numbered below with the actions achieved listed below each task.

- 1. Further develop the generic pre-installation design standards that will eventually be available to ship builders and classification societies.*
Work in progress - WMO sent a letter about ship design to the International Association of Classification Societies (IACS) in February 2007 and the issue was discussed at a high level WMO-IMO consultative meeting in Geneva in February. WMO will report on this.
- 2. Review existing promotional aids (flyer, certificate) and recommend new promotional aids.*
The promotional aids are on the VOS website and being used.
- 3. Promote the use of, and keep under review, the promotional presentation "The Partnership between the Maritime Industry, Marine Forecasting and Science".*
The PowerPoint presentation still conveys the right message, but some of the slides need updating to keep it current.
- 4. Establish a store of newsworthy articles for use in a SOT or VOSclim Newsletter or in national newsletters.*
Agreed to use the E-SURFAR Wiki website
- 5. Review the questionnaire used for the Marine Meteorological Services Monitoring Programme, and propose amendments, which should be reflected in the questionnaire survey to be*

conducted in 2008.

Questionnaire review completed and revised questionnaire sent to Chair of ETMSS, in August 2006. The questionnaire was discussed and adopted at the Expert Team on Maritime Safety Services (ETMSS-II) in Brazil in January 2007, and will be disseminated for the next monitoring survey in early 2008, after final discussion during the SOT-IV in April 2007.

Summary of other work completed under the TT

Initiatives

1. The SOT Certificate and Flyer were finalized and put on the VOS web site <http://www.bom.gov.au/jcomm/vos/resources.html#operational5> during the 4th quarter (Q4) 2005. These are now in routine use.
2. The PMO and VOS FP group mailing lists were established to improve global communication and these are being used. pmo@jcommops.org and vos@jcommops.org
3. The Foreign VOS Inspection form (Annex 3) was completed in Q2, 2006 and put on the VOS website http://www.bom.gov.au/jcomm/vos/documents/foreign_vos_inspection_form.doc for PMOs to download. PMOs should use this generic inspection form to record the details of a visit to a foreign VOS ship and then email the completed form to the VOS FP in the country of recruitment.
4. VOS Quick Reference Guides for PMOs (Annex 1) and National VOS Programme Managers (Annex 2) were written by the Chairs of the SOT and VOSP and put on the VOS web site in Q4 2006. <http://www.bom.gov.au/jcomm/vos/information.html#info1>
These guides are intended to standardize global VOS practices and to provide helpful guidelines for both existing and new PMOs and VOS Programme Managers. As well as providing information about ship recruitment and visiting, the Guides contain links to the VOS Quality Monitoring Tools and details the recommended international reporting requirements for WMO, SOT, and other bodies on the status of National VOS.

TT Membership Review

The TT members as agreed at SOT III are:

Steve Cook (TT chairperson, USA)
Graeme Ball (Australia)
Pierre Blouch (France)
Julie Fletcher (New Zealand)
Gordon Mackie (United Kingdom)
Sarah North (United Kingdom)

It is recommended that this Task Team be re-established for the next intersessional period, but that its membership is reviewed and a new Chairperson appointed to replace Steve Cook (retired).

VOS Quick Reference Guide

Annex 1: Port Meteorological Officers

The purpose of this "Quick Reference Guide" is to:

1. Help newly appointed personnel become familiar with the [functions of a PMO](#);
2. Reacquaint experienced personnel with these functions; and
3. Promote the resources available to fulfil these functions.

Note: This guide is presented in point form and should be used in conjunction with the Quick Reference Guide for VOS Program Managers, as the separation of responsibilities and tasks expressed here might not be representative of all countries. The two guides when combined should cover the basic requirements of operating and maintaining a national VOS Program. Many of the functions of the PMO described in this guide are summarised in the VOS Work Flow Diagram at appendix 1.

Monitor Ship Movements

- Identify new ships that are arriving in port, i.e. as a potential VOS recruitment.
- Identify ships in the national VOS Fleet (VOF) that are arriving in port.
- Identify ships in a foreign VOF that are arriving in port
- Prioritise and plan ship visits accordingly.
- Obtain the necessary port and ship security passes in advance of a planned visit in accordance with prescribed local arrangements or specific port/ship requirements.
- Monitor the movement of ships in the national VOF and, if necessary, make arrangements for individual ships to be inspected or visited by an [international PMO](#).

Recruitment Preliminaries

- Select potential ships for the national VOF and or [VOSClim](#). Depending on your location, some recruitment factors to consider might include:
 - The trading pattern or route of the ship – target data-sparse areas;
 - The percentage of the time sailing in desired areas;
 - Length of charter on the route;

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- Ability to regularly inspect and service the ship;
 - The availability of certified NMS instruments for installation on the ship;
 - The suitability of the ship to carry and care for the loaned NMS instruments;
 - The availability of a suitable communication system on the ship to send the observations; and
 - The availability of a computer on the Bridge on which to install electronic logbook software.
- Check the [WMO List of Selected, Supplementary and Auxiliary Ships](#) (WMO-No. 47) to ensure that a ship under consideration for recruitment is not already a member of another national VOF.
 - Confirm the participation of the ship in the national VOF with the Master and the Shipping Company.
 - Use the following recruitment aids as necessary to solicit new ships:
 - [SOT flyer](#) (PDF, 95 kb);
 - [VOS brochure](#) (PDF, 910 kb);
 - [VOSclim brochure](#) (PDF, 1090 kb) and
 - [SOT Recruitment Presentation](#) (PPT, 6145 kb).

Recruitment Visit

- Determine, in consultation with the Master, the most appropriate meteorological reporting class (selected, supplementary or auxiliary) of the vessel.
- Install calibrated NMS instruments ensuring the best possible exposure.
- Provide nationally prescribed marine observing stationery and reference material as appropriate, e.g. marine meteorological handbooks, sea-state and cloud charts/booklets, coding card/book.
- Provide initial training in:
 - General observing requirements, i.e. observing and reporting times, recording and coding of observations;

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- Observing/estimating visual elements;
- Reading, use and care of meteorological instruments;
- Use of electronic logbook software, e.g. TurboWin, SEAS, ObsJMA; and
- Manual coding and recording of an observation in a paper logbook (if appropriate).
- Advise on the preferred method of transmitting the observation and, where appropriate, the use of [Special Access Code 41](#) (SAC41) for Inmarsat transmissions.
- Collect the required [metadata for WMO-No. 47](#), including photographs.
- Document the required recruitment details and metadata:
 - **VOS recruitment:** use a nationally prescribed recruitment form (if applicable).
 - **VOSClim recruitment:** use the [VOSClim Recruitment/Update/Derecruitment Form](#).

The recruitment process, including the both recruitment preliminaries and recruitment visit described above, are summarised in the VOS Recruitment Flow Diagram at appendix 2.

Post Recruitment Monitoring

- After the ship leaves, check the GTS for BBXX messages received during the first 7 days.
- If BBXX were received, contact the ship to:
 - Provide feedback on the quantity, quality, frequency and timeliness of the observations;
 - Provide feedback on any coding problems or observational issues; and
 - Thank the Master and Observing Officers for their efforts.
- If BBXX have not been received, contact the ship and ascertain if the observing program has started.
 - **Yes the observing program has started:**
 - Enquire about the method (e.g. SAC41) used to send the BBXX; and
 - If using SAC41, to which [Land Earth Station](#) (LES) the BBXX were sent to.

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- **No the observing program has not started:**
 - Enquire when the program will start; and
 - Provide the Observing Officers with additional instructions, training and encouragement as necessary.

Routine VOF Monitoring

- Regularly review the quantity, quality and timeliness of data provided by ships in the national VOF. Several global VOS monitoring tools are available for this purpose, including:
 - [Météo France VOS monitoring tools](#); and
 - [RSMC monthly monitoring statistics](#).
- Investigate ships in the national VOF that, based on these global VOS monitoring tools, are suspected of producing erroneous data.
- Follow up on any ship showing consistent coding errors.
- Follow up on any ship if their observations cease, to:
 - Determine the reason for the lack of BBXX on the GTS; and
 - Restart the observing program if considered appropriate to do so.

Routine Inspection Visits

- Schedule inspection visits at the intervals or frequency recommended by the NMS.
- Check the performance and accuracy of the meteorological instruments, including AWS sensors, and adjust, repair or replace as necessary.
- Provide feedback on the quantity, quality, frequency and timeliness of observations sent on the GTS.
- Collect completed paper logbooks where applicable.
- Download log files and delayed-mode observation data from electronic logbooks (e.g. TurboWin, SEAS etc) to floppy disk or USB memory stick.

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- Download delayed-mode observation data from an AWS in accordance with NMS instructions.
- Check and update as necessary, all previously collected [metadata for WMO-No. 47](#).
- Confirm that agent/owner/manager details have not changed.
- Check if any there are expected changes in the trading pattern of the ship.
- Document the ship visit :
 - **National VOS:** use a nationally prescribed VOS Inspection Form (if applicable); or
 - **Foreign VOS:** use the [Foreign Inspection Form](#) and email the completed form to the [VOS Focal Point](#) of the ship's country of recruitment.
- Collect feedback from ship's officers about the quality of marine forecasts and warnings, and reception quality of meteorological charts received via radio-facsimile or other means. Relay the feedback, both negative and positive, through the VOS Program Manager to the responsible person in the NMS.
- Return all faulty instruments to the NMS for repair and re-calibration.

Encouragement & Rewards

- Present ships with a [SOT Certificate of Appreciation](#). The criteria for issuing the certificate are included in the downloaded ZIP file.
- Present ships participating in VOSCLim with a [VOSCLim Certificate of Participation](#) ([view sample certificate](#)).
- Take digital photographs at VOSCLim Certificate of Participation presentations. Send the photographs with captions to the national [VOSCLim Focal Point](#).
- If a national award scheme for the VOS exists, confer awards on suitably qualified ships in accordance with national directives.
- Distribute relevant national newsletters or publications to ships in the national VOF.
- Distribute international newsletters or publications to ships in the national VOS or VOSCLim fleet as appropriate.
- In accordance with national customs or practices and on behalf of the NMS:
 - Send a welcome letter or email to each newly recruited ship;

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- Send a thank you letter or email to each good reporting ship upon leaving the national VOF;
- Distribute items of goodwill in recognition of the voluntary work undertaken by the crew to provide weather observations, e.g. Christmas cards, calendars, caps, etc.

De-recruitment

- The PMO should use discretion in deciding whether to de-recruit a ship from their national VOF. Possible reasons for de-recruitment include:
 - Intended scrapping of the vessel;
 - The period of the ship's charter is about to end;
 - Change in the ship's trading pattern making future inspection visits difficult;
 - The Shipping Company has become insolvent and trading has or will soon cease;
 - Unsatisfactory reporting performance; and
 - The VOS Program has lapsed and there is no interest by the ship's personnel in restarting the program.
- Formally advise the Master, and if necessary the owners/managers, the ship is being withdrawn from the national VOF and that any loaned instruments will be recovered.
- Collect the NMS instruments, final logbook or data disks, handbooks and other stationery. Where this is not possible make arrangements for the instruments to be returned by post or landed with ships agents for subsequent return. Also refer to **International Support** below.
- Document the de-recruitment details:
 - **VOS de-recruitment:** use a nationally prescribed de-recruitment form (if applicable);
or
 - **VOSClim de-recruitment:** use [VOSClim Recruitment/Update/Derecruitment Form](#).
- If the de-recruitment is the result of a change in the ship's trading pattern, with the consent of the Master contact the PMO in the region where the ship will trade and suggest that they recruit the ship into their national VOF.

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Communication & Liaison

- Maintain regular contact with the VOS Program Manager or the national VOS Office.
- Maintain regular contact with other national PMOs if applicable, e.g. to ensure that inspection visits will not be duplicated.
- Maintain contact with [international PMOs](#) as necessary.
- Maintain contact with, and provide training or assistance as necessary to:
 - Local maritime colleges;
 - Harbour authorities; and
 - Yacht clubs, etc.

International Support

- In response to a request from the [PMO](#) or the [VOS Focal Point](#) from the recruiting country of a ship:
 - Give assistance as requested by that country; or
 - Recover equipment from a designated ship in accordance with detailed instructions provided by the recruiting country:
 - These instructions should include specific details about each item to be recovered, e.g. description, quantity, serial number, etc; and
 - Arrange for the return of all recovered items to the recruiting country at the earliest opportunity. Liaise with the recruiting country to establish the preferred port for the delivery of the items and the relevant addressee's contact details.

The recovery of equipment might occur if a ship has been re-routed and the recruiting country considers it unlikely that the ship will return to its port of recruitment to enable the retrieval of the equipment. Alternatively, a ship might land its meteorological or oceanographic equipment at a foreign port and request its return to the recruiting country when it learns it has been re-routed.

Complementary Programs

- At the request from the NMS, identify potential ships to assist with complementary marine meteorological and oceanographic observing programs, including:

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- [Ship of Opportunity Programme](#);
- [Automated Shipboard Aerological Programme](#);
- [Drifting buoys for DBCP](#); and
- [Profiling floats for Argo](#).

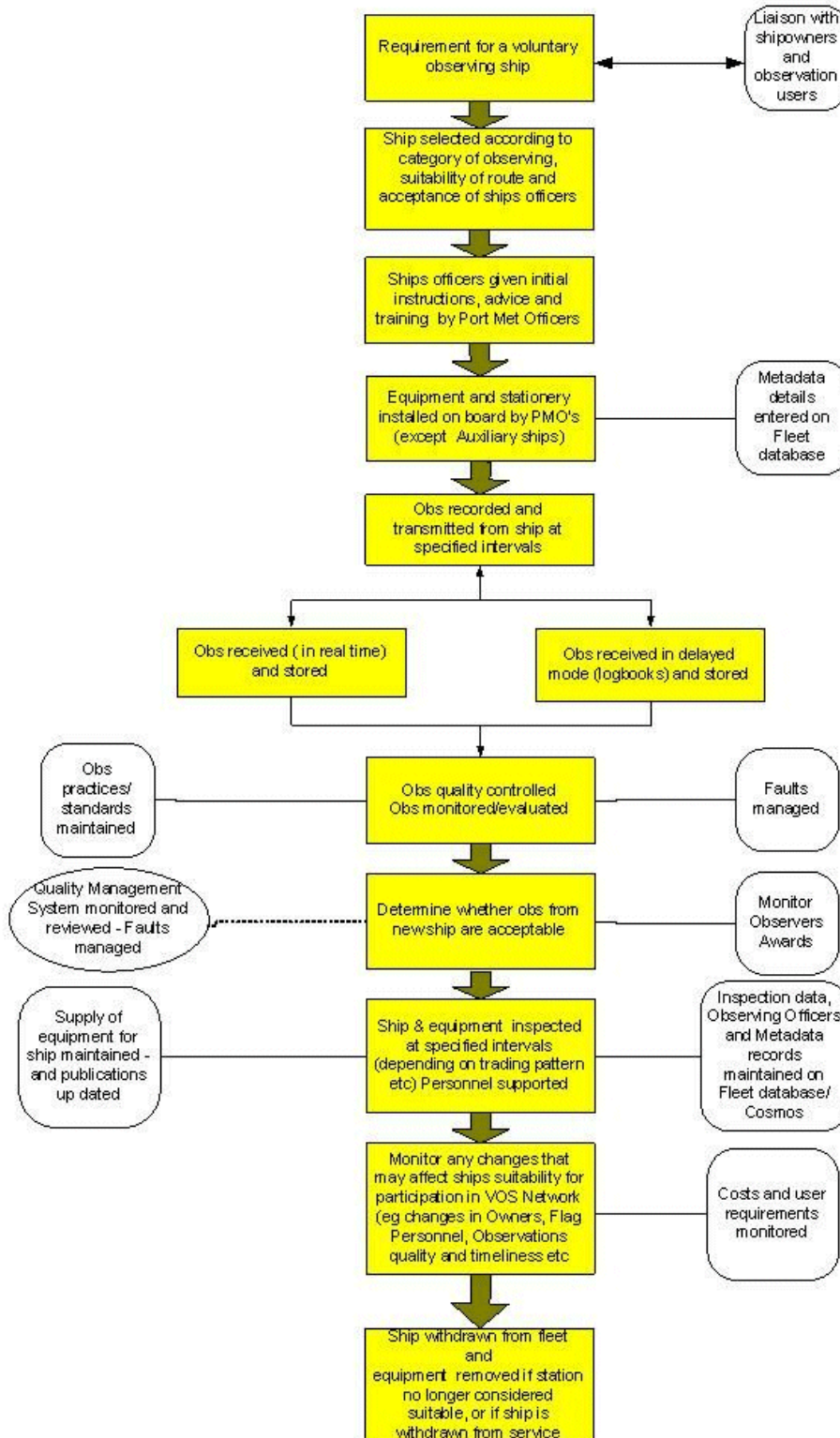
Prepared by [Julie Fletcher](#) and [Graeme Ball](#)

for the SOT Task Team on *VOS Recruitment and Programme Promotion*.

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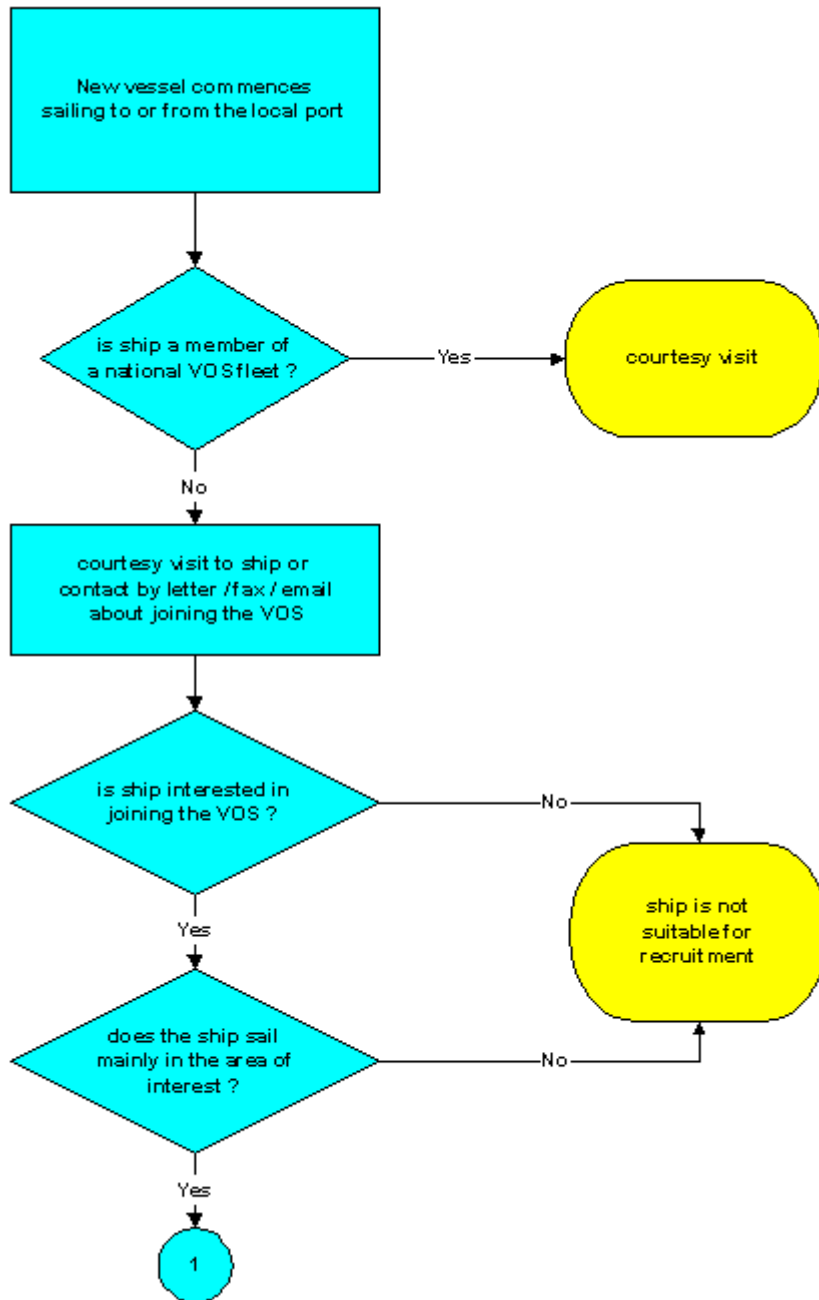
Appendix 1

VOS Work Flow Diagram

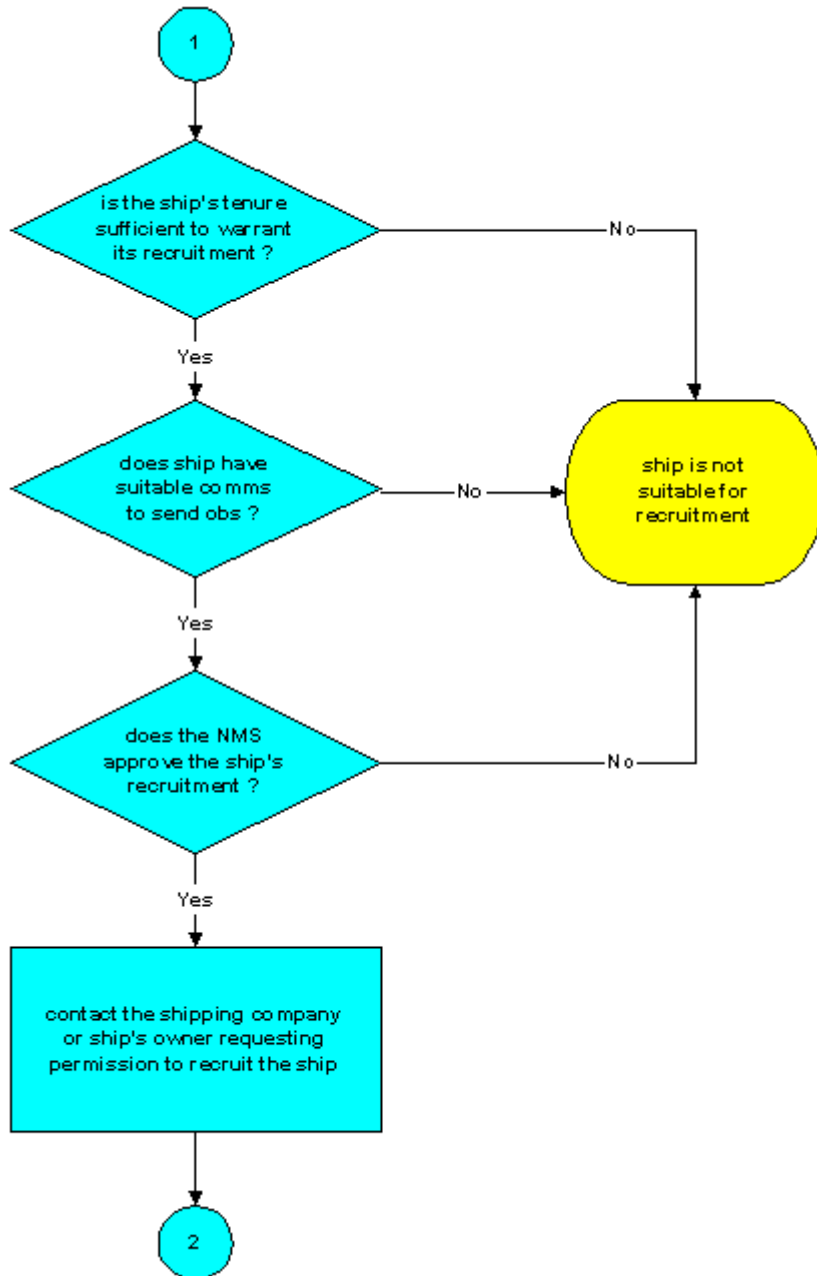


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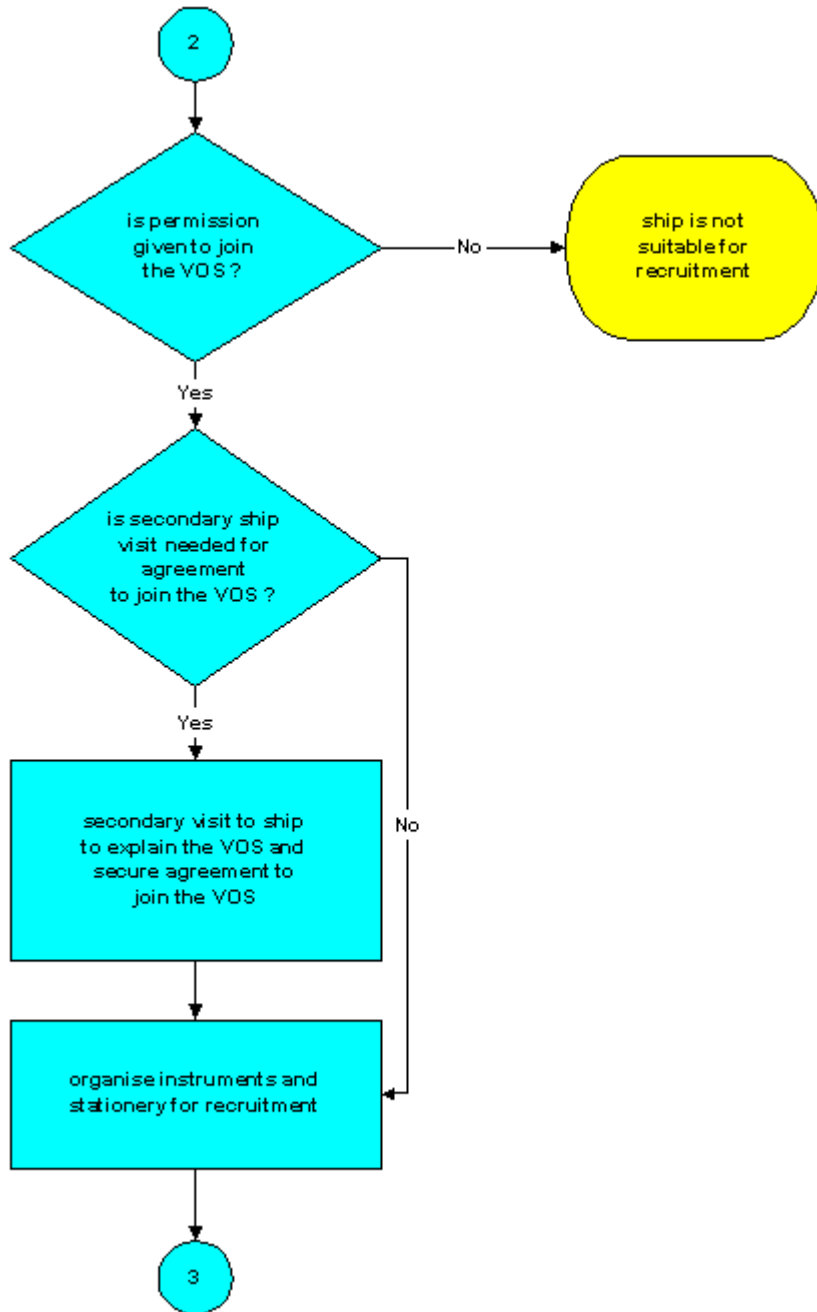
VOS Recruitment Flow Diagram



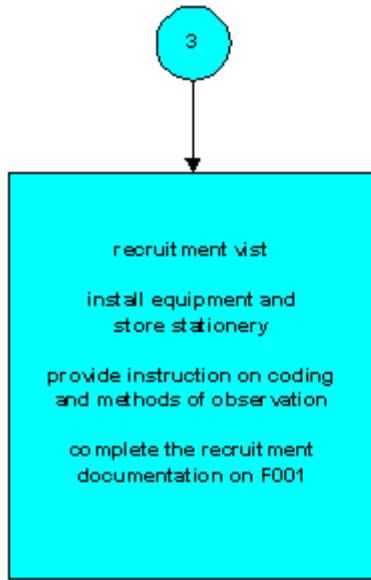
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Annex2: VOS Program Managers

The purpose of this "Quick Reference Guide" is to:

1. Help newly appointed personnel become familiar with their JCOMM responsibilities;
2. Reacquaint experienced personnel with their JCOMM responsibilities; and
3. Promote the resources available to fulfil these responsibilities.

Note: This guide is presented in point form and should be used in conjunction with the Quick Reference Guide for Port Meteorological Officers, as the separation of responsibilities and tasks expressed here might not be representative of all countries. This guide is not intended to be the definitive list of VOS Program Manager functions, however when combined with the Quick Reference Guide for Port Meteorological Officers they should cover the basic requirements, including the international responsibilities, of operating a national VOS Program.

National VOS Database

- On receipt of a recruitment or de-recruitment advice from a PMO, add, terminate or update the ship's record in the national VOS database as appropriate. The database as a minimum should store the required [metadata for WMO-No. 47](#).
- On receipt of an inspection advice from a PMO, update the ship's record in the database as appropriate, including:
 - Dates and details of equipment changes; and
 - Dates of instrument calibration.

VOF Monitoring

- In collaboration with national PMOs, investigate ships in the national VOF that are suspected of producing erroneous data or whose data are not being received within prescribed model cut off times. In addition to the global VOS monitoring tools listed in the Quick Reference Guide for Port Meteorological Officers, other useful tools include:
 - Monthly VOSclim Suspect List, emailed directly to the [VOSclim Focal Points](#); and
 - [JCOMMOPS QCRelay](#) email messages.
- Use the Météo France [search tool for multiple ship recruitment](#) to enquire if any ship in the national VOF has subsequently been recruited as a member of another national VOF. In the

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event that a ship has been multi-recruited, contact the other recruiting country and reach a bilateral agreement about the ships(s) in question.

Reporting & Feedback

- [Email WMO](#) with the national VOF list in [current WMO-No. 47 format](#) (**Note:** [Metadata Format Version 03](#) from July 1, 2007) by:
 - **15 January:** for the national VOF as at 31 December;
 - **15 April:** for the national VOF as at March 31;
 - **15 July:** for the national VOF as at 30 June; and
 - **15 October:** for the national VOF as at 30 September.
- At the end of each month, and to assist the UK Met Office to prepare personalised national VOS monthly monitoring statistics, [email the RSMC](#) with the current national VOF list. The VOF list shall be in TXT format and conform to the following format:
 - Beginning in column 1: **callsign**;
 - Beginning in column 13: **ship name**; and
 - Beginning in column 57: **ISO country code of the recruiting country**.
- Respond to email messages from the RSMC delivered through the [JCOMMOPS QCRelay](#) about any ship in the national VOF suspected of providing erroneous data, to:
 - Report on the investigation of the suspected problem; and
 - Advise of any corrective action(s) taken.
- Complete and [email to WMO](#) by 15 March each year as national input to the SOT Annual Report, the following template documents distributed by WMO on behalf of the SOT:
 - **Country-SOT-NR-YYYY.doc** and;
 - **Country-VOS-YYYY.doc**.
- If the country also operates a SOOP and or an ASAP, it is recommended that a single national SOT Focal Point is appointed with responsibility to:
 - Collect the following documents from the respective national Focal Points as appropriate:

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- **Country-VOS-YYYY.doc**
- **Country-SOOP-YYYY.doc** and
- **Country-ASAP-YYYY.doc.**
- Complete the **Country-SOT-NR-YYYY.doc** document on behalf of all programs;
- Submit the SOT National Report to WMO; and
- Be the primary national contact for the SOT.

Data Management

- In conjunction with the appropriate personnel in the NMS, ensure that all BBXX received through the national LES, (or by other means e.g. radio, facsimile, phone) are collated into Ship Bulletins and distributed on the GTS.
- In conjunction with the appropriate personnel in the NMS, ensure that SHIP data collected from the GTS or in paper or electronic logbooks from the national VOF, are electronically archived.
- In conjunction with the appropriate personnel in the NMS, provide SHIP data for the WMO **Marine Climatological Summaries Scheme** (MCSS). The data shall be:
 - Quality controlled using **Minimum Quality Control Standards** (MQCS):
 - The current version is [MQCS-V](#) (PDF, 110 kb); and
 - MQCS-V compliant validation software is available on request from either [GCC/UK](#) or [GCC/Germany](#).
 - Submitted regularly, e.g. quarterly, in **International Marine Meteorological Tape** (IMMT) format to both the GCC/UK and GCC/Germany:
 - The current version is [IMMT-III](#) (PDF, 60 kb); and
 - Advise the [GCC/UK and GCC/Germany](#) when the data are available and request their preferred method of electronic delivery, e.g. email or FTP.

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PMO training

- Arrange for regular national training workshops for PMOs.

VOSClim Focal Point

- Notify the [VOSClim Data Assembly Centre \(DAC\) and RSMC \(UKMO\)](#) when changes occur in the national VOSClim fleet. Minimum details shall include:
 - Ship name;
 - Callsign;
 - IMO Number;
 - Date of recruitment or de-recruitment; or
 - Date of changes to ship name and or callsign.
- Advise the [VOSClim DAC](#) of potential VOSClim recruitments.
- Provide the [VOSClim DAC](#) with a copy of the digital photographs, including captions, taken at VOSClim Certificate of Participation presentations.
- Email the [RSMC](#) about any ship listed on the 'VOSClim Suspect list', to:
 - Report on the investigation of the suspected problem; and
 - Advise of any corrective action(s) taken.

General

- Circulate the 4 yearly Marine Meteorological Services Monitoring Questionnaire for completion by ships in the national VOF.

Prepared by [Julie Fletcher](#) and [Graeme Ball](#)

for the SOT Task Team on *VOS Recruitment and Programme Promotion*.



SHIP OBSERVATIONS TEAM – VOS SCHEME

REPORT OF INSPECTION TO FOREIGN VOS

(Please complete relevant sections and email this report to the VOS Focal Point in the Country of Recruitment)

VOSP001

SHIP DETAILS *		* Required
Name of Ship		
Call Sign		
IMO Number		
Ship's email address		
Shipping Route		
VOS Country of Recruitment		(Refer to WMO No. 47)

INSPECTION DETAILS *		
Inspecting PMO		(Name & Location)
Date of inspection		(yyyy-mm-dd)
Country & Port of visit		
Reason for the visit		

VOS PERFORMANCE	
Recent GTS reporting history	
Quality of the observations	
Frequency of obs. from logbook	

INSTRUMENTS OR STATIONERY ISSUED OR RECOVERED			
Full details of instruments recovered (make / model / serial no. / reason)			
Full details of instruments issued (make / model / serial no.)			
Details of any stationery issued			
Details of paper logbooks recovered (mail to the responsible VOS FP)	Period of the observations recovered (yyyy-mm-dd-hh)		
	First obs.		Last obs.
Downloaded electronic logbook data (email to the responsible VOS FP)	Period of the observations recovered (yyyy-mm-dd-hh)		
	First obs.		Last obs.

General Comments & Other Actions	
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DETAILS OF INSTRUMENTS ON ARRIVAL

Barometer	Make / Model / Type				
	Serial No.				
	Default setting – SLP or MSLP		(Station Level [SLP] or Mean Sea Level [MSLP])		
	Condition of the instrument				
Barograph	Make / Model / Type				
	Serial No.				
	Default setting – SLP or MSLP		(Station Level [SLP] or Mean Sea Level [MSLP])		
	Condition of the instrument				
Screen	Attribute	Port		Starboard	
	Condition of the screen(s)				
	Condition of the thermometers				
	Condition of the muslin/wick				
Electronic logbook software		Type		Version	
Equipment Condition	AWS or TurboWin laptop				
	Sea water bucket				
	Sea thermometer				
	Whirling psychrometer/thermometers				
	Anemometer				

BAROMETER COMPARISON (Ensure the corrected pressure on both barometers are set to the same level)

TEST	SHIP'S BAROMETER			PMO INSPECTION BAROMETER		
	Pressure as read (a)	Corrections Temp + Drift + Height (b)	Corrected Pressure (a) + (b)	Pressure as read (e)	Corrections Temp + Drift + Height (f)	Corrected Pressure (e) + (f)
1						
2						
3						
		Mean (d)			Mean (g)	
		Error (m)		= Mean (d) – Mean (g)		
		Correction (n)		Reverse the sign of Error (m)		

Special Instructions for Precision Aneroid Barometers used by AU, HK, NZ & UK

AU	<table border="1"> <tr> <td>New drift correction (p)</td> <td></td> <td>= Existing drift correction + Correction (n)</td> </tr> </table> <p>If the value of (p) equals or exceeds ± 0.3 hPa, alter the drift correction sticker to the new value of (p). If either (n) or (p) equals or exceeds ± 0.5 hPa, alter the drift correction sticker to the new value of (p) and alert the NMS.</p>	New drift correction (p)		= Existing drift correction + Correction (n)
New drift correction (p)		= Existing drift correction + Correction (n)		
HK, NZ, UK	Do not alter the correction table. If the error exceeds ± 0.3 hPa of the reference pressure and alert the NMS .			