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INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)

JOINT WMO/IOC TECHNICAL COMMISSION FOR
OCEANOGRAPHY AND MARINE METEOROLOGY
(JCOMM)

SHIP OBSERVATIONS TEAM (SOT)

EIGHTH SESSION

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ITEM: 8.1.1

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VOS PANEL CHAIR REPORT

(Submitted by Sarah North (United Kingdom))

Summary and purpose of the document

This document contains a short report by Ms Sarah North, Chairperson of the VOS Panel regarding her VOS related activities during the past intersessional period and highlights some of the key issues to be addressed during the Panel session.

ACTION PROPOSED

The Team will review the information contained in this report, and comment and make decisions or recommendations as appropriate. See part A for the details of recommended actions.

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- Appendices:**
- A.** Intersessional Activities of the VOS Panel Chair
 - B.** VOS Panel Terms of Reference
 - C.** VOSP Chair's Informal report on the US PMO Conference 2014

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

8.1.1.1 The Voluntary Observing Ship (VOS) Panel (VOSP) Chairperson, Ms Sarah North (United Kingdom), opened the eighth Session of the VOS Panel. She reported on activities undertaken during the intersessional period April 2013 to April 2015. A summary of these activities is attached at **Appendix A** and a copy of the VOS Panel's Terms of Reference is attached at **Appendix B**.

8.1.1.2 Ms North attended fifth Session of the JCOMM Observations Coordination Group (OCG, Washington, USA, September 2013). She reported that the OCG had decided to facilitate the formation of a Task Team (TT) to focus on the scientific and strategic aspects of engaging the shipping industry on marine observing. The Task Team which would also include representatives from several programs including from SOT/VOS. The final report of the OCG-5 meeting is available on the JCOMM website¹.

8.1.1.3 Ms North also attended the US Port Meteorological Officers (PMO) Conference (Stennis Space Center, 26-28 August 2014). She reported that one of the most significant developments arising from this meeting was the decision by NOAA's National Weather Service to migrate their VOS to the future use of TurboWin electronic logbook software, thereby replacing the Amver/SEAS software. This move will greatly help with upgrading ships to VOSClim standards and will help establish closer ties between US and International/European VOS operators, the majority whom already use the TurboWin software. Details of this US PMO meeting are available at the NOAA VOS website².

8.1.1.4 The Team noted that throughout the intersessional period the VOSP Chair actively participated as a member of all seven of the current SOT Task Teams. She had in particular been heavily involved in the work of the Task Team on VOS Recruitment and Programme Promotion (TT-VRPP), which she currently chairs. In this regard she had drafted a new VOS Poster which could be used to promote VOS activities at international meetings, and had prepared a draft VOS Questionnaire to assess how the VOS Scheme is performing, and to gain feedback on the service provided by PMOs. She also provided input to the revision of the VOS Brochure and further progressed the proposals for generic ship designs standards at a meeting with the International Chamber of Shipping held on 6 March 2015.

8.1.1.5 As chair of the TT- VRPP Ms North was also heavily involved in the review of the performance of the Ancillary Pilot Project and, following close liaison with other members of the Task Team, made recommendations on its future (agenda item 7.8 refers). She thanked the Team for their active participation and input.

8.1.1.6 As Chair of the Drifter Donation Programme Evaluation Committee (PEC) Ms North was kept informed of all proposed drifter donations. However she noted that, unfortunately, none of the proposals for drifter donations had been realised yet.

8.1.1.7 Ms North also represented WMO at the first session of the International Maritime Organization's Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) held from 30 June to 4 July 2014 at the IMO Headquarters in London. At this meeting a paper was submitted jointly by Canada, Iceland, Norway, Sweden and the United States encouraging enhanced participation in the VOS Scheme in the Arctic. She made an intervention at the meeting supporting the submission of this paper (Agenda item 8.2.1.4 also refers).

8.1.1.8 Deputizing for the SOT Chair, Ms North also participated in two JCOMMOPS teleconferences aimed at navigating the future of JCOMMOPS, and to help ensure that the VOS Panel (along with other constituent JCOMM programs), can continue see value in engaging with JCOMMOPS and its infrastructure.

¹ http://www.jcomm.info/index.php?option=com_oe&task=viewDocumentRecord&docID=14660

² http://www.vos.noaa.gov/met_officers_workshop.shtml

8.1.1.9 It was noted that, pending retirement, Ms North had recently stood down as chair of the E-SURFMAR VOS Expert Team and had been succeeded by Henry Kleta (Germany). She advised the meeting that she was however willing to continue as Chair of the VOS Panel and to participate in PMO-V.

8.1.1.10 Ms North also advised that she had extracted information from the VOS National Reports submitted by members in order to provide input to the 2013 and 2014 SOT reports concerning the use of electronic logbooks and automated observing systems. These reports, together with information extracted from the E- SURFMAR metadata database, were also essential to assess the status of participation in the VOS Scheme (Agenda item 8.2.1 refers). In this regard, Ms North stressed on the following:

- Although VOS national reports had so far been received from 19 VOS operating countries there were several countries that had failed to submit reports by the deadline. Unfortunately some of the reports contained limited information either suggesting that completing the reports was too onerous a task, or perhaps indicating limited awareness of how the VOS Scheme works.
- There was considerable duplication of information being requested from VOS operators. For instance information on instruments was not only being collected in the VOS national reports but also for the Task Team on Instrument Standards. Moreover this information should in theory already be accessible from the E-SURFMAR database, provided members keep it up to date.

8.1.1.11 With these factors in mind the VOSP Chair suggested that consideration should be given to developing an alternative on-line version of the VOS report. The Panel agreed with this suggestion and requested the SOT Coordinator, in liaison with the SOT Chair, the VOSP Chair and the SOT Task Team Chairs to consider the potential for developing an on-line reporting system (**action; M. Kramp; SOT-9**).

8.1.1.12 She also drew attention to a recommendation made in the report prepared by Bob Kelley (Canada) on the Data Systems Relevant to JCOMM Activities³ that VOS annual reporting needs to provide graphics to show how well the VOS is meeting its objectives. She suggested that the proposed new reporting system should be designed to try and help achieve this objective.

8.1.1.17 The Panel requested the SOT Coordinator, in liaison with the SOT Chair, the VOSP Chair and the SOT Task Team Chairs to consider the potential for developing an on-line reporting system. Consideration should be given to developing on-line version of the VOS report (**action; M. Kramp; Nov. 2015**).

- B - BACKGROUND INFORMATION

A copy of Ms North's informal report of the US PMO Conference is attached at **Appendix C** to this paper together with a copy of the letter subsequently issued to US VOS informing them of the decision to migrate to the use of TurboWin is also included with this report.

Appendices: 3

³ http://www.jcomm.info/index.php?option=com_content&view=article&id=331

APPENDIX A

INTERSESSIONAL ACTIVITIES OF THE VOS CHAIR

1. Task Team Participation

The VOSP Chair actively participated in all the SOT Task Teams listed below

- a. Member of Task Team on Metadata for WMO No. 41 (Pub41)
- b. Member of Task Team on Callsign Masking and Encoding
- c. Chair of Task Team on VOS Recruitment and Programme Promotion
- d. Member of Task Team on Instrument Standards
- e. Member of Task Team on Satellite Communications
- f. Member of Task Team on Training
- g. Member of Task Team on ASAP

In particular as Chair of the Task Team on VOS Recruitment and Programme Promotion I compiled a comprehensive report and proposed several new initiatives to help promote the VOS Scheme. I also proposed several new amendments to the WMO Pub 47 metadata fields

2. US PMO Conference 2014

The VOSP Chair participated in the US PMO Conference held at the Stennis Space Center, 26-28 August 2014. Details of the workshop are available at

http://www.vos.noaa.gov/met_officers_workshop.shtml

3. JCOMMOPS Teleconference

Acting on behalf of the SOT Chair, the VOSP Chair participated in JCOMMOPS Teleconferences held in December 2014 and again in January 2015. The teleconferences are aimed at navigating the future of JCOMMOPS, to ensure the constituent panels continue see value in engaging in JCOMMOPS and its infrastructure for sustained ocean observations. The meetings also addressed JCOMMOPS staff resources, the proposed relocation of JCOMMOPS to Brest; and preparations for OCG-6

4. VOS Brochure

The VOSP Chair provided further input to the draft revised brochure

5. VOS Poster

The VOSP Chair developed a new Poster to promote the VOS Scheme and its activities

6. VOS Questionnaire

The VOSP Chair designed a draft questionnaire to provide feedback on the performance of the VOS Scheme and with a view to identifying any areas that need improvement

7. EUCAWS

The VOSP Chair attended the Ship Acceptance Test for the European Eucaws system on board the cross channel ferry 'Amorique'

8. OCG

The VOSP Chair participated in the OCG meeting in Washington OCG-5, Washington, USA, September 2013

9. International Maritime Organisation

The VOSP Chair attended the first session of the International Maritime Organization's Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) held from 30 June to 4 July 2014 at the IMO Headquarters in London and made an intervention supporting a paper calling for enhanced participation in the VOS Scheme in the Arctic.

10. International Chamber of Shipping

In order to further progress this issue of ship design standards the VOSP Chair arranged a meeting at ICS Headquarters, London on 6 March 2015. Details of the outcome of this meeting are contained in the TT-VRPP report to SOT-8

11. Status of real-time in situ observing system (Freeland)

The VOS Chair, provided input on the VOS to the document prepared by Howard Freeland on 'The current status of the real-time in situ global observing system for operational oceanography'

12. Ancillary Pilot Project

The VOS Chair was been actively involved in the VOS Ancillary Pilot Project and prepared the initial draft report on its future

13. VOS Drifter Donation (VOS-DP)

As Chair of the Drifter Donation Programme Evaluation Committee (PEC) she had been kept informed of all proposed drifter donations. However none of these have yet to be realised

14. SOT Annual Reports

The VOSP Chair extracted information from the 2013 and 2014 VOS National Reports for inclusion in the SOT Annual Reports. In particular she extracted the ship AWS and electronic logbook information in order to gather trends on the increasing use of automation.

15. SOT-8 Planning

In liaison with The SOT Chair and the WMO Secretariat the VOSP Chair has been closely involved with planning for the SOT-8 VOS Panel Session and with the initial plans for the forthcoming Fifth International Workshop of Port Meteorological Officers (PMO-5),

16. E-SURFMAR Expert Team on VOS

The VOSP Chair also attended the eleventh meeting of the E-Surfmars VOS Expert Team meeting (ET-VOS-11; Met Office, Exeter, 2014). After seven years chairing this meeting she had decided to stand down as the Chair pending her retirement

17. TurboWin Software

The VOSP Chair also assisted with the beta testing of TurboWin+ and TurboWin V5.5

18. PMO Activities

During the intersessional period the VOSP Chair remained actively involved in inspecting and recruiting ships, ship deployment activities, and training of new PMOs. She also convened several meetings with major UK based shipping companies

APPENDIX B

VOS PANEL TERMS OF REFERENCE

(Excerpt of Annex to Resolution 3 (JCOMM-4), Terms of Reference and General Membership of the Coordination Group and Teams of the Observation Programme Area)

The Voluntary Observing Ship (VOS) Panel shall:

- (a) Review, recommend and coordinate the implementation of new and improved specialized shipboard meteorological instrumentation, siting and observing practices, as well as of associated software;
- (b) Support the development and maintenance of new pilot projects;
- (c) Oversee the upgrade of ships to VOSClim standard, and encourage other new ships to be recruited to the VOSClim class;
- (d) Develop and implement activities to enhance ship recruitment, including promotional brochures and training videos;
- (e) Prepare annually a report on the status of VOS operations, data availability and data quality.

APPENDIX C

INFORMAL REPORT BY THE VOSP CHAIR

US PMO Conference 2014 – Stennis Space Center, 26-28 August 2014

As a consequence of recent impact studies which ranked the VOS in the top 50% of all US observing systems, and identified that VOS data was used in almost 140 products, NOAA has decided increase its support for the US arm of the international VOS Scheme.

In order to secure and increase spending on the US VOS and its supporting PMO structure it has been decided to transfer responsibility for the VOS from the National Data Buoy Center (NDBC) to NOAA NWS HQ in Silver Spring. Although the VOS Operations Manager (Paula Rychtar) will remain in NDBC in Stennis the newly appointed VOS Program Manager (Steve Pritchett) will oversee VOS and PMO operations from NOAA HQ. Funding for the VOS, excluding staff costs, will increase initially to \$180k but later leading to \$250k or possibly more. There are currently 3 PMO vacancies but because of the way PMO posts are funded regionally it is uncertain at present if all will be filled. However it appears that efforts are being made to restructure the current chain of command to ensure greater accountability of the PMOs to HQ

The meeting was very well attended with 8 US PMOs present as well as their Regional Managers, Captains from the US Coast Guard, merchant shipping Masters, Amver, Environment Canada, the National Climate Data Centre (NCDC) and several senior officials from NOAA, including the NOAA/NWS Deputy Director (Laura Furgione). Following three days of detailed discussion it is anticipated that the increased funding will be directed at the following areas

- Rectifying problems with their iVOS database (although the database links to the E-SURFMAR metadata database it currently lacks the functionality to be used operationally by the PMOs)
- Increasing automation (there are already AWS packages developed by the NDBC that could be employed on VOS with little development)
- Increasing equipment availability for the their manned VOS (PMOs have been starved of funding for new equipment for several years, so it is likely that they will start to invest in digital barometers for their higher quality VOSclim ships)

By far the most significant development at the meeting was the decision by AOML to end their MoU concerning the use of AmverSEAS software on US VOS, and NOAA's subsequent decision to migrate their ships to the use of TurboWin and TurboWin+ software. Already TurboWin has been successfully rolled out to ~ 100 of their VOS and TurboWin+ software is in use on at least a dozen ships. By migrating directly to TurboWin+ it is recognised that the US will be effectively upgrading its ships to VOSclim standard, and will be ready for the increased broadband availability on ships. In other words they will be able to catch up with developments within Europe and hopefully be able to play a more proactive role in VOS activities generally and to forge closer links with E-SURFMAR and the JCOMM Ship Observations Team (SOT). During the meeting several areas were identified where there could potentially be enhanced e.g. including marine debris reports, inclusion of more observer training information, linking of their DBX barometers to TurboWin to provide a tendency display etc

Another major development is the effort being made to streamline the US VOS fleet of over 800 ships by transferring inactive and unsupported VOS to a provisional support fleet. More than 100 ships have already been placed in this category which is currently falling under the Ancillary VOS class. Proposals will need to be put before the next JCOMM SOT meeting in April to decide how to deal with such lower quality or inactive ships in the future, as they technically don't belong under the definition of an Ancillary VOS. Except in exceptional circumstances all future US VOS recruitments will need to be approved by the VOS Operations Manager. A formal order has been issued to PMOs to ensure that unnecessary and duplicate recruitments by PMOs are controlled in

future.

Consideration was also given to the future of the Mariners Weather Log which is now the only major VOS publication available to VOS observers. It was suggested that this should be reduced in size so that it could be more easily printed off by PMOs to take on board or, depending on bandwidth, could be emailed to participating VOS. Moreover it was suggested that it could in future be developed into an 'international' MWL for use by all VOS.

It was apparent at the meeting that there had, until recently, been poor morale and frustration among the UP PMOs due to lack of a clear strategy, mixed messages from management, limitations on local travel costs and general funding cuts (which have prevented them from supplying new calibrated instruments to higher quality VOS). Federal restrictions have also prevented them from issuing awards or promotional items to their ships. The PMOs were therefore pleased to learn that the VOS was now being supported at a higher level and left the meeting with a positive outlook for the future. One or two PMOs are likely to attend the international PMO meeting next year in Chile and it is anticipated that the US will take a more proactive role in JCOMM SOT issues as they increasingly get their house in order

SCN 1 September 2014

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Additional notes/possible actions/ideas/thoughts arising from the meeting for consideration by E-SURFMAR/JCOMM SOT

- TurboWin/Web – include video clips to train observers (US already have a training video for observers but it needs updating). Could also include an observations Q & A section
- TurboWeb – include a link to Mariners Weather Log ?
- TurboWeb – include link to future award photos and presentations
- The NDBC moored buoys have live webcams for checking vandalism – still images from these could perhaps be used as future sea state images for TurboWin
- Include Marine Debris reports in TurboWin/Web (PMO Seattle could assist with this)
- NOAA have a contract with PortVision for AIS data. The system appears a bit more friendly than Dirkzwager and foreign VOS alerts can be easily set up. The merits of different AIS data providers for PMOs and VOS focal points needs closer review to see which best suits international needs. (Is there any way a contract could be funded/established with an AIS provider to have an international AIS system to display VOS ships)
- US is now fully committed to Turbo Software and ambitious goal is so to have all our VOS vessels on TurboWin 5.x or TurboWin+ 2.x. within the next 18 months
- US PMOs are waiting for the go ahead from KNMI/E-SURFMAR to start fully rolling out TurboWin+. I suspect most of their ships will use it in stand-alone mode to start with, (rather than moving to the web version straight away) although they may consider the web version for their NOAA survey vessels . The US are also eagerly awaiting TurboWin 5.5
- Question was raised whether Tsunami warnings could be issued by Sat C?
- Some development work on US Facebook page/group for ship obs is apparently in hand. Could have international potential?
- It was suggested that it might be an idea for TurboWin to be set up to automatically email the IMMT log files direct to the GCCs at say three monthly intervals.
- A global drifter programme (GDP) link in TurboWeb was suggested e.g. to show drifter locations and identify data sparse deployment areas
- Mention was made to a company called Saildocs (www.saildocs.com) which can send graphical weather charts by email (which could be utilised for ships with limited bandwidth).

Some ship captains who dialled into the meeting said they liked email weather request facilities (like the NOAA ftp weather system)

- Perhaps there should be an international award for the shipping company that produces the most observations each year ??
- It was generally agreed that VOS focal points and PMOs should work more closely with maritime academies and nautical schools with a view to training future observers and updating the syllabus to include TurboWin training. Perhaps SOT should develop some form of generic training syllabus for observers
- More than 100 US ships (mostly emanating from the Alaskan region) have recently been demoted to the US support fleet and are being recorded under 'other' in the E-SURFMAR database with an appropriate footnote. It is considered that a paper to the next SOT should be drafted to consider how these pseudo Ancillary ships should be dealt with in future (will discuss with Paula)
- It could potentially be very helpful if lists of ships that have been inactive could be added to the QC Tools pages e.g. this could be done by country and could list say ships that have produced no observations over the last year. This would help to identify ships more readily that need to be chased or withdrawn from the VOS
- It was suggested that if the US iVOS database issues could be resolved there may be potential for it to be used internationally for VOS (as was originally envisaged by Robert Luke)
- The US use the DBX barometer (<http://www.digitalbarograph.com/>) on some of their ships. If a version with a serial port is available it might be helpful to the US if Turbowin+ could link to that barometer to provide a pressure trace (as is done for the Vaisala barometers).
- It is considered that the above report and comments give weight to the need to reactivate/revisit the draft Annex under the MoU with EUMETNET regarding collaboration between NOAA and E-SURFMAR.

ANNEX

Dear Voluntary Observing Ship Participant:

On behalf of National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS), thank you for your active participation in the Voluntary Observing Ships (VOS) program. Your efforts benefit all mariners and contribute to understanding of weather and climate. I want you to know the NWS is transitioning to new VOS software compliant with the World Meteorological Organization/Joint Technical Commission for Oceanography and Marine Meteorology requirements. The new software is called TurboWin, and enables your observations to be integrated into global weather prediction models.

Enclosed is your package of TurboWin to replace the current AMVER/SEAS VOS weather reporting software with a link to the TurboWin manual with instructions on how to install and use the software. I believe you will find TurboWin easier to use and because it uses photographs to characterize sea state and clouds, there will be more uniformity in the way observations are taken. These improvements will contribute to improved marine weather forecasting capabilities.

Thank you for your collaboration with the NWS VOS program and please keep in contact with your NWS Port Meteorological Officer (PMO). Please let your PMO know if you have any question or concerns about this transition.

Sincerely,



Laura K. Furgione
