METADATA AND REPORTING TOOLS

(Submitted by Graeme Ball, SOT Chairperson)

Summary and purpose of the document

This document provides information on VOS metadata collection and reporting tools developed to assist VOSP members.

ACTION PROPOSED

The Team is invited to review the information contained in this report and to use the tools within their own NMS as appropriate.

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Appendices: A. Form VOSP002 – VOS metadata collection form
B. Form VOSP002 instructions
C. VOSP002 Metadata Viewer instructions
D. Pub47 XML Generator instructions

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

III-2.5.1 The Team recalled that a range of metadata tools, modelled on those used by the Australian Bureau of Meteorology, was developed to assist VOS Programme Managers and PMOs to collect the requisite WMO No. 47 metadata and to provide it to WMO in XML metadata exchange format.

III-2.5.2 The tools, developed in Word and Excel, include:

1. A Word-based **Form VOSP002** to record the metadata.

2. An Excel-based **VOSP002 Metadata Viewer** to view and format the metadata for other applications, and

3. An Excel-based **Pub47 XML Generator** to create a properly formatted XML file containing the requisite Pub. 47 metadata.

III-2.5.3 The Team noted with appreciation that these tools were in the public domain for the benefit of members, particularly those without a national VOS database, or those lacking the capability to produce an XML file for Pub. 47 metadata from their national VOS database. The Team invited its members to use the tools within their own NMS as appropriate (action, members, ongoing).

- B - BACKGROUND INFORMATION

1.   Introduction

1.1   Over many years, the Australian Bureau of Meteorology has used paper forms to record VOS metadata at recruitment, and to update the metadata at subsequent ship visits. These metadata are then entered into a database from which varieties of reports, including WMO No. 47, are automatically generated.

1.2   With the introduction of the VOSClim Form 001, the equivalent Bureau form was rendered redundant and all VOS, whether VOSClim or regular VOS were recruited using VOSClim Form 001.

1.3   Following the changes to WMO No. 47 in July 2007, the VOSClim Form 001 became ineffectual due to the requirement for additional metadata elements and a different metadata reporting order. The Australian Bureau of Meteorology, through its Marine Operations Group, subsequently developed a Word-based form that could be completed and submitted electronically by its PMAs. Coincident with the changes to WMO No. 47 and the Bureau's intention of reporting its ship's metadata in XML, an Excel-based application was developed to produce the quarterly WMO No. 47 XML metadata exchange file.

1.4   Australian PMAs are contractors and do not have write permission to the Bureau's corporate database where all station metadata, including ships, are stored. The initial entry or updating of ship's metadata is the responsibility of the Marine Operations Group. The electronic form was considered the most appropriate replacement for the VOSClim Form 001 as it allowed extraction of the electronic data for use in other applications.

1.5   The VOS Form VOSP002, is modelled extensively on the equivalent form used by the Australian Bureau of Meteorology. The main differences are (1) the date format, and (2) additional 'global' entries in some drop-down lists. Similarly, the Pub 47 XML Generator is modelled on the application used by the Australian Bureau of Meteorology.

2.   Form VOSP002

2.1   Form VOSP002 is a Word-based document for recording VOS or VOSClim metadata at recruitment or for recording updated metadata resulting from a ship visit. See Appendix A.

2.2   The form uses text fields, radio buttons, check boxes and drop-down lists for entering or selecting metadata.

2.3   Some limitations in Word restrict the use of drop-down lists in Form VOSP002:

(a) Word restricts each drop-down list to 25 options. The implication of this for VOSP002 is that some WMO Code Tables (1501 and 1801) are not presented as drop-down lists.

(b) Word cannot display both a code value and a description for each list option. Because the data can be extracted electronically from the form and parsed into Excel, it was decided to use code values. The implication of this for Form VOSP002 is that a PMO must refer to the WMO No. 47 Code Tables when completing the form.

2.4   Full instructions for using and completing Form VOSP002 are given in Appendix B.

3.   VOSP002 Metadata Viewer

3.1   The VOSP002 Metadata Viewer is an Excel-based companion to Form VOSP002, which uses the electronically extracted data from Form VOSP002.

3.2   The extracted data are parsed into Excel where they are automatically formatted for use by other applications such as the **Pub47 XML Generator** (described below) and the E-Surfmar VOS database. The VOSP002 Metadata Viewer can also detect missing metadata considered mandatory.

3.3   The E-Surfmar VOS database provides an import facility to ingest the CSV output file created from the VOSP002 Metadata Viewer.

3.4   Instructions for using the VOSP002 Metadata Viewer are at Appendix C.

4.   Pub47 XML Generator

4.1   The Pub47 XML Generator is used either as a stand-alone application where the VOS Programme Manager manually adds or edits the input metadata fields, or as a companion application to the VOSP002 Viewer.

4.2   In companion mode, the Pub47 XML Generator uses the Pub47 output created by the VOSP002 Metadata Viewer. The Pub47 XML Generator automatically inserts the current date as the report date, and inserts the recruiting country provided by the VOS Programme Manager. A text-based XML file is created from the Pub47 XML Generator output.

4.3   Instructions for using the Pub47 XML Generator are at Appendix D.

5.   Discussion

5.1   These tools are in the public domain for the benefit of members, particularly those without a national VOS database, or those lacking the capability to produce an XML file containing VOS Pub. 47 metadata from their national VOS database.

5.2   These tools will be maintained as necessary and be available on the JCOMM VOS website at the following URL: < http://www.bom.gov.au/jcomm/vos/resources.html#ops06 >

5.3   The tools are scheduled to be demonstrated during the Technical Workshop at SOT-V.

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Appendices: 4