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SHIP OBSERVATIONS TEAM

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**VOSP-V
MONITORING AND DATA MANAGEMENT**

VOS Database

(Submitted by Ms Julie Fletcher, Chairperson, JCOMM VOS Panel)

Summary and purpose of document

This document considers the implications for VOS Programme Managers of the introduction of WMO-No. 47 metadata Version 3.0 on 1 July 2007, explores the readiness of the National Meteorological Services (NMSs) to provide metadata in the new metadata exchange format, and suggests solutions for countries without a WMO-No. 47 metadata version 3.0 compliant databases.

ACTION PROPOSED

The VOS Panel is invited to:

1. Note the information contained in this report and comment on national preparedness;
 2. Discuss the options available for collecting metadata by countries without a suitable database;
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VOS Database

Background:

WMO Publication No. 47 (Pub 47), the *International List of Selected, Supplementary and Auxiliary Ships*, Metadata Version 3.0 will be introduced on 1 July 2007. Please refer to the report by the Task Team on Metadata for the WMO-No 47, Agenda Item I-4.3.

Documentation on the WMO-No. 47 Metadata Version 3.0 was issued to the respective National Meteorological Services on 1 June 2006, to provide ample lead time before the introduction date. The documentation was made available on the JCOMM VOS website via a link, and reference to the new version was also included on the Pub. 47 page on the JCOMM website, via a link to the JCOMM VOS website.

Implications:

The introduction of WMO No. 47 Metadata Version 3.0 has implications for the following issues:

1. VOS Programme Managers who must modify their existing database structure to accommodate the new metadata requirements;
2. WMO as the host of WMO-No. 47. This is discussed separately in Doc I-5.1.2; and
3. Monitoring Centres and users of the metadata who must be able to ingest the new metadata.

This report deals specifically with the implications for VOS Programme Managers.

Database solutions – National V, Regional V, Global

National

The VOS Programme Managers generally maintain a national database to collect and report the metadata required for Pub 47. The type and function of these databases are known to vary from very basic to extremely sophisticated and interactive.

Pub 47 currently requires the mandatory collection of 109 metadata elements. In addition to collecting the required metadata, many countries also use their respective VOS databases to record details about ship visits, instrument serial numbers, instrument calibration dates, and ship contact details. The National databases are also configured to output various reports and lists (e.g., lists of VOS by name, callsign, automation type, lists of VOSclim, Ship address lists for mailouts, list of instruments types, etc.).

The new version of Pub 47, metadata Version 3.0, requires the mandatory collection of 119 metadata elements, and introduces XML as an alternative metadata exchange format to the customary semi-colon delimited exchange format.

Some National Meteorological Services (NMSs) plan to upgrade their existing databases to accommodate the additional metadata elements and to report using the XML metadata exchange format. Other countries however are less certain how to proceed and have indicated they might manually record and report the extra metadata until a better solution can be found.

Regional:

As demonstrated during the Scientific and Technical Workshop, the DWD is developing a new web-based VOS database for E-SURFMAR. This is a regional initiative to collect and store the metadata for all VOS ships participating under E-SURFMAR.

Global:

Whilst some countries and E-SURFMAR are likely to be able to provide Pub 47 metadata in Version 3.0 after 1 July 2007, there will be some countries that do not have a database capable of outputting the required version 3 format.

The following options could assist countries without a VOS database:

1. Use the DWD/E-SURFMAR database as an example of how to develop a national database;
2. Expand/open the DWD/E-SURFMAR database to entry by other countries; or
3. Develop a web-based data entry facility at WMO, similar to the JCOMMOPS buoy metadata database or the Argo deployment notification form and accompanying tools.

Options 2 and 3 offer a common VOS database solution for the entry of the required Pub 47 metadata fields. Countries may still however need to maintain independent records of additional details for their own national purposes.

The WMO portal for Publication 47 could also eventually provide a front-end facility to enable VOS Programme Managers to directly enter the following:

- A quick entry form for all operators to enter new ship details, and
- A form for the entry of the full Pub 47 Metadata suite.

The 'quick entry form' is proposed for use by all VOS operators to advise of the recruitment of a new ship and to satisfy the real-time requirements of the RSMC and other Monitoring Centres, the QCRelay and the PMOs who want to know which ships to target for recruitment. The metadata details of a new ship would be restricted to the name of the ship, callsign and the country of recruitment.

The input facility for the full suite of required Pub 47 metadata would be available for those countries that do not have the resources to develop and maintain a specialised National VOS database and are happy to enter their metadata directly into the WMO database. This facility would ideally suit those countries with either a small VOF, or a VOF that remained relatively static.

Recommendations:

That, as part of the development of the WMO-No. 47 database as proposed in Doc. I-5.1.2, that the WMO develop front-end forms to enable VOS Programme Managers to directly enter and update as necessary the following items: (1.) minimum suite of metadata about new ship, and (2.) the complete suite of required WMO-No. 47 metadata on a per ship basis.
