WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

JOINT WMO/IOC TECHNICAL COMMISSION FOR OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)
EXPERT TEAM ON MARINE CLIMATOLOGY

ETMC-II/Doc. 5.1
(15.II.2007)

SECOND SESSION

ITEM 5.1

GENEVA, SWITZERLAND, 26 TO 27 MARCH 2007

Original: ENGLISH

PLATFORM METADATA CATALOGUE

Current status of the WMO Ship Catalogue (WMO-No. 47)

(Submitted by the Secretariat)

Summary and purpose of document

This document provides information on the current status of WMO Publication No. 47, its current format, the new format and related requirements, and on possible future solutions to manage the Publication.

ACTION PROPOSED

The Expert Team on Marine Climatology is invited to:

(a) Take this information into account when discussing relevant agenda items;

(b) Make recommendation(s) to the SOT for updating the WMO-No. 47 format, as necessary and/or appropriate;

(c) Make recommendations regarding the future management of the Publication, as necessary and/or appropriate.

Appendices: A. Task Team on Metadata for WMO-No. 47 (Pub. 47)
B WMO-No. 47 International list of Selected, Supplementary and Auxiliary ships (Version 3.1)

DISCUSSION

1. Current status

1.1. The International List of Selected, Supplementary and Auxiliary Ships (WMO Pub. No. 47) contains details of the names, call signs, layout, types of instrumentation and methods of observation used on Voluntary Observing Ship (VOS) Programme. The publication relies on the regular submission of metadata from respective National Meteorological Services (NMSs) operating VOS programmes, nominally on a quarterly basis.

1.2. The WMO Pub. No. 47 is an important tool for VOS operators as it: (i.) greatly assists in identifying the status of foreign ships, (ii.) permits to identify which ships, through their omission from the list, could be targeted for possible VOS recruitment; an up-to-date version would reduce the chance of multi-recruitment by more than one NMS and avoid unnecessary ship visits by Port Meteorological Officers (PMOs), (iii.) assists PMOs when preparing to visit a foreign VOS vessel, and (iv.) permits to identify which ships could be targeted as possible deployment vessels for buoys and floats.

1.3. The timely availability of the current ship metadata is of particular concern to the VOS operators. However, there is also a need to maintain a digital archive of the historical metadata for use with climate datasets, to allow the identification and correction of spurious climate signals that may result from changes in VOS instrumentation. In addition, accurate details about the method of observation and instrument type, instrument exposure, instrument calibration dates and ship layout, are vital to meet the objectives and the desired accuracies of the VOSClim.

1.4. The current version of the Publication has been adopted by the JCOMM-II (Halifax, Nova Scotia, September 2005) through its Recommendation II following recommendations by the Third Session of the Ship Observations Team (SOT-III, Brest, France, March 2005) and the First Session of the ETMC (ETMC-I, Gydnia, Poland, July 2004) who had cooperated to develop the proposal. The JCOMM-II agreed to initiate the preparation, by the SOT, of an XML version for the future exchange of the metadata for said publication, and approved the adoption by the SOT of a semi-colon delimited format for the immediate current exchange of the metadata. Per the agreement of the ETMC-I, the JCOMM-II agreed that the SOT should be the subsidiary body of the JCOMM, responsible for the future maintenance of the International List of Selected, Supplementary and Auxiliary Ships, in consultation, as appropriate, with the ETMC and other relevant bodies, including user groups.

1.5. The publication was formerly printed annually, but since 1999, had been available electronically on the official WMO website. In 2003, the SOT and VOSClim noted with concern that the electronic version of the publication had been updated very infrequently in the past years. Efforts have then been made by the WMO Secretariat to resume normal operations of the publication updates.

1.6. The SOT-III decided to re-establish its Task Team on Metadata for WMO Pub. No. 47. The details regarding the Members and Terms of References (ToR) are provided in Appendix A. The Meeting also considered the recommendation from the Task Team to use XML formatting as a future method of exchanging WMO Pub. No. 47 metadata. The Meeting agreed with the ETMC's recommendation for trial use of the XML in the VOSClim Project.

1.7. The SOT-III recognized the importance of the historical editions of WMO Pub. No. 47 as a resource for climate research. The accessibility of the up-to-date metadata is an important issue for research and operational purposes. It is important that any changes to the delivery mechanisms for electronic versions of Pub. 47 meets the needs of climate researchers for historical metadata, as well as operators needs for up-to-date metadata. It was noted that many participating countries were not regularly updating their metadata. The mechanism by which Pub. 47 is generated means that any metadata from countries which have not submitted an update is copied to the latest edition unchanged. The importance of a mechanism to identify the updated records was recognized.

1.8. The SOT-III strongly encouraged the VOS operators to ensure that the latest up-to-date version

of metadata is regularly provided to the WMO Secretariat, and that metadata is formatted correctly. The Meeting requested that the WMO Secretariat send a quarterly reminder to the VOS Focal Points, using the VOS Focal Point mailing list, for the purpose of encouraging metadata submission.

2. The new format

2.1. In July 2006, a letter was sent to Permanent Representatives of Members of WMO operating VOS, SOO and/or ASAP programmes, informing them about the new format which was introduced by the JCOMM-II for addressing VOSClim requirements. The new format will become effective as of 1 July 2007. Documentation for the new format can be obtained from the WMO website (listed below) and is also reproduced in Appendix B:

http://www.bom.gov.au/jcomm/vos/documents/pub47_documentation_version3.pdf

2.2. Until then, submissions should continue to be made in Version 02 format, which is detailed at:

http://www.wmo.ch/web/www/ois/pub47/pub47-home.htm.

2.3. In this letter (mentioned-above), the WMO was also suggesting that WMO Members:

(i) Kindly check the present version of WMO Publication No. 47 at the URL (as indicated above in format version 02) and advise whether any of the ships listed under their country have been de-recruited, and should therefore be deleted, and whether the information pertaining to their recruited ships is accurate;
(ii) Ensure that they have procedures in place to provide the WMO Secretariat with their national input for the publication on a quarterly basis (i.e., by 15 January, 15 April, 15 July, and 15 October, each year) in version 02 format until 1 July 2007;
(iii) Ensure the necessary developments to upgrade these procedures to produce their national input in version 03 format (i.e., field delimited or XML) as of 1 July 2007. National input and comments are being provided by electronic format via email to: Pub47@wmo.int.

2.4. The Fourth Session of the SOT (SOT-IV, Geneva, Switzerland, from 16 to 21 April 2007), will address the requirements for the Publications, and suggest new changes for a future version. The ETMC is invited to discuss whether version 3.1 will continue to meet the ETMC requirements. If this is not the case, the ETMC might consider suggesting changes to the SOT.

3. Possible future schemes

3.1 The SOT and JCOMM has expressed concerns on several occasions regarding the efficiency of the management of the Publication by the WMO Secretariat, and maintaining it up-to-date based on quarterly submissions by the VOS National Focal Points. Despite recent efforts by the WMO to resume normal operation for updating the publication on a quarterly basis, the SOT-IV (Brest, France, March 2005), and JCOMM-II (Halifax, Canada, September 2005) expressed such concerns once again. At the time of writing this report, the WMO was investigating possible solutions.

3.2 The JCOMMOPS is now regularly importing in its database metadata for all ships contained in the most recent copy of WMO Pub. No. 47 (currently December 2006). Imported data is useful for the JCOMMOPS monitoring purposes (e.g., production of programme status, quality information relay, etc.). In addition, the JCOMMOPS database also includes references of ships which do not necessarily appear in the WMO publication (e.g., SOOP ships, ships used for deployments and some research vessels). A web query form (http://wo.jcommops.org/cgi-bin/WebObjects/JCOMMOPS.woa/wa/ship) has been developed by the JCOMMOPS. The JCOMMOPS version of the database is not the official version, and differs somewhat from the official version because many fields are currently missing.

3.3. The SOT-III agreed that the query form was useful for ship operators and data users to quickly identify ships and that it was more user friendly than searching through flat files, as is the case with the WMO publications. Therefore, it regarded the JCOMMOPS product as complementary to the official

version of the publication. While noting that the JCOMMOPS did not import all metadata fields from the WMO publications, SOT-III asked the JCOMMOPS to upgrade its system in order to include all available fields.

3.4. The SOT-IV will discuss opportunities to manage the Publication in a way that would be more satisfactory to the WMO Members, users of the Publication (including real-time users and delayed-mode users such as the ETMC), and VOS operators submitting input. The ETMC will be invited to discuss such opportunities and possibly make recommendations to the upcoming SOT-IV Session that will be held in Geneva, Switzerland, from 16 to 21 April 2007.

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Appendices: 2

Appendix A

Task Team on Metadata for WMO-No. 47 (Pub. 47)

Tasks:

1. Prepare a submission to JCOMM-II regarding the proposed changes to WMO-No. 47 (Pub. 47) metadata based on the recommendations from SOT-III.

2. Prepare a consolidated list of ship routes in accordance with the submission to JCOMM-II for presentation at SOT-IV.

3. Regularly review the Pub. 47 metadata requirements and make recommendations as appropriate.

4. Monitor the receipt of regular Pub. 47 updates at WMO from participating VOS members.

Members:

Mr Graeme Ball (TT Chairperson, Australia)
Mr Pierre Blouch (France)
Ms Yvonne Cook (Canada)
Ms Julie Fletcher (New Zealand)
Dr Elizabeth Kent (United Kingdom)
Mr Robert Luke (USA)
Ms Sarah North (United Kingdom)

Appendix B

WMO-No. 47

International list of Selected, Supplementary and Auxiliary ships

Metadata fields & descriptions, exchange formats and code tables

Metadata Format Version 03

Prepared for the World Meteorological Organization by the
JCOMM Ship Observations Team

(Effective from 1 July 2007)

WMO-No. 47

Metadata Format Version 03

Document Version Tracking

Metadata Format Version	Document Version	Date of Issue	Prepared By
01	1.0		WMO
02	2.0	8 July 2002	WMO
03	3.0	1 June 2006	SOT (Graeme Ball)
03	3.1	22 June 2006	SOT (Graeme Ball)

WMO-No. 47

Metadata Format Version 03

Contents

WMO-No. 47

Metadata Format Version 03

Introduction

WMO maintains a catalogue of ships participating in the global Voluntary Observing Ship (VOS) Scheme. The catalogue is produced from the national VOS lists and the national list of VOS routes submitted by WMO Members.

The catalogue, which contains a comprehensive range of ship's metadata, was originally available as a WMO publication, WMO-No. 47 (commonly referred to as Pub 47). Due to increasing printing and distribution costs, the publication was suspended in the late 1990s. An electronic version of the catalogue became available on the WMO website < **http://www.wmo.ch/web/www/ois/pub47/pub47-home.htm** > during 2003. Despite the changed method of distribution, the electronic file retains the name of the original publication.

Because of changing demands for ship's metadata, the Ship Observations Team (SOT) formed a Task Team at SOT-II (July 2003, London, UK) to revise WMO-No. 47. The proposed changes were subsequently approved at JCOMM-II (September 2006, Halifax, Canada).

This document describes the field descriptions, presentation layout and file exchange formats for WMO-No. 47, Metadata Format Version 03, approved at JCOMM-II.

WMO-No. 47, Metadata Format Version 03, comes into effect on **1 July 2007**.

Note:

A recommendation proposed by the SOT was to establish a global set of ship routes to replace the existing, and often overlapping ship routes that were maintained by each country.

JCOMM-II approved this recommendation and requested that the Task Team on WMO-No. 47 develop a global set of ship routes for submission to the VOS Panel at SOT-IV in (April 2007).

Once the global set of ship routes has been approved by the VOSP, this document will be revised to incorporate the global set of ship routes. The document will then be redistributed to national VOS Focal Points and Port Meteorological Officers soon after SOT-IV.

Errata:

This document, WMO-No. 47 Document Version 3.1, corrects the indicator in the footnote column in Annex 2 for field anSC (fields 78 and 87) to **No**.

WMO-No. 47

Metadata Format Version 03

Obligations for WMO Members

1. Paragraphs 2.3.3.3 and 2.3.3.4 of the Manual on the Global Observing System, WMO-No, 544, requires WMO Members operating a VOS Program to provide the WMO Secretariat with a copy of their national VOS list.

2. Because of frequent changes in merchant fleets and to ensure that WMO-No. 47 remains as current as is practicable, paragraph 6.2.5 of the Guide to Marine Meteorological Services, WMO-No. 671, requests WMO Members to make quarterly submissions of their national VOS list to the WMO Secretariat, rather than annually as required by WMO-No. 544.

3. WMO Members submitting to WMO-No. 47 should note the following:

    a. To comply with the decision of the WMO Expert Team on Marine Climatology, only mobile platforms, including ships either temporarily or semi-permanently at anchor, shall be reported in WMO-No. 47. Fixed platforms shall be reported under the JCOMM ODAS metadata scheme.

    b. The list of ships shall be sorted alphabetically by name.

    c. Only mobile platforms recruited by the WMO Member shall be included in its national VOS list.

    d. Ship's digital images and drawings shall be retained by the NMS.

4. WMO Members should ensure that ships they intend to recruit are not already members of another country's VOS fleet by consulting the WMO-No. 47.

5. WMO Members are strongly encouraged to use the search facility provided for EUCOS by Météo France at < **http://www.meteo.shom.fr/vos-monitoring/multi-recruit.html** > to search for incidences of multiple-recruitment of ships in their national VOS fleet. In such cases, the recruiting countries should resolve the issue through bilateral agreement.

6. The national VOS lists shall be emailed to the WMO Secretariat at: **pub47@wmo.int**.

WMO-No. 47

Metadata Format Version 03

General notes on exchange formats and XML schema

WMO-No. 47, Metadata Format Version 03, now gives WMO Members the choice of submitting their national VOS list as either a semi-colon delimited text file as in the past, or an XML (eXtensible Markup Language) file.

Semi-colon delimited file

1. The file shall contain one line, comprising 119 metadata elements, for each platform.
2. The sequence of elements shall be in the order as given in Annex 1.
3. Each metadata element includes a semi-colon (;) delimiter as the last character as shown in Annex 1.

XML file

1. The structure of the XML file shall be as given in Annex 3.
2. The XML file shall consist of a top-level header: **<?xml version="1.0"?>**.
3. The dataset shall begin with an opening tag: **<pub47dataset country="" version="03" namespace>,** where namespace consists of two parts, (a) and (b) below, separated by a space:
    a. **xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance**
    b. xsi:noNamespaceSchemaLocation="http://www.bom.gov.au/jcomm/vos/pub47/pub47.xsd"
4. The dataset shall end with a closing tag: **</pub47dataset>**.
5. Each ship record in the dataset will comprise 97 metadata elements and section headers, and shall:
    a. Begin with an opening tag: <**pub47record nmsID=””>**
    b. End with a closing tag **</pub47record>**.

XML schema

1. Full documentation of the XML schema for WMO-No. 47, Metadata Format Version 03, is available in both HTML and PDF formats from the **VOS website** at < **http://www.bom.gov.au/jcomm/vos/** >.
2. From the menu select **Information** » **WMO-No. 47 XML Schema**.

Annex 1

WMO-No. 47

Metadata Format Version 03

Semi-colon delimited exchange format – fields and descriptions

Order	Code Name	Explanation	Table	Format	Footnote	Example
1	rcnty;	Recruiting country.	1801		No	
2	ver;	Metadata format versión			No	03
3	prepared;	Date of report preparation.		ddmmyyyy	No	
4	name;	Ship's name.			No	
5	reg;	Country of registration.	1801		No	
6	call;	Call sign or WMO Number. Some sea stations are identified by a WMO Number instead of a call sign.			No	
7	IMOn;	IMO Number. Unique identifying number assigned by Lloyd's Register to the hull of the ship.			No	
8	vssl;	Vessel type.	2201		Yes	
9	vsslP;	Vessel digital image.	2203		No	
10	lenvsslD;	Length overall of the ship, ignoring bulbous bow.		0.0 m	No	
11	brdvsslD;	Moulded breadth. The greatest breadth amidships.		0.0 m	No	
12	frbvsslD;	Freeboard. The average height of the upper deck above the maximum Summer load line.		0.0 m	No	
13	drfvsslD;	Draught. The average depth of the keel below the maximum Summer load line.		0.0 m	No	
14	chtvsslD;	Cargo height. Maximum height above the maximum Summer load line.		0.0 m	No	
15	brdg;	Distance of the bridge from the bow.		0.0 m	No	
16	rte;	Route No.1.	1802		Yes	
17	rte;	Route No.2.	1802		Yes	
18	rte;	Route No.3.	1802		Yes	
19	rte;	Route No.4.	1802		Yes	
20	rte;	Route No.5.	1802		Yes	
21	rte;	Route No.6.	1802		Yes	

22	rte;	Route No.7	1802		Yes	
23	rte;	Route No.8.	1802		Yes	
24	rte;	Route No.9.	1802		Yes	
25	rte;	Route No.10.	1802		Yes	
26	vosR;	Recruitment date of the current VOS participation.		ddmmyyyy	No	
27	vosD;	De-recruitment date of the last VOS participation (report only if the vessel has been re-recruited).		ddmmyyyy	No	
28	vclmR;	Last VOSClim recruitment date if within the current period of VOS participation.		ddmmyyyy	No	
29	vclmD;	Last VOSClim de-recruitment date if within the current period of VOS participation.		ddmmyyyy	No	
30	vsslM;	Type of meteorological reporting ship.	2202		Yes	
31	atm;	General observing practice.	0105		Yes	
32	freq;	Routine observing frequency.	0602		Yes	
33	prST;	Satellite system for transmitting reports.			No	INMARSAT-C
34	logE;	Name and version of the electronic logbook software.			No	TurboWin 2.12
35	wwH;	Visual wind/wave observing height.		0.0 m	No	
36	anmU;	General wind observing practice.	0103		No	
37	blc;	Baseline check of the automatic weather station.	0203		No	
38	awsM;	Make and model of the automatic weather station.			No	Vaisala Milos 500
39	awsP;	Name and version of the automatic weather station processing software.			No	Yourlink 1.03.20
40	awsC;	Name and version of the automatic weather station data entry/display software.			No	Milos 500 2.56
41	barm;	Primary barometer type.	0202		Yes	
42	barm;	Secondary barometer type.	0202		Yes	
43	bMS;	Make and model of the primary barometer.			No	Vaisala PTB220B
44	bMS;	Make and model of the secondary barometer.			No	
45	brmH;	Height of the primary barometer above the maximum Summer load line.		0.0 m	No	
46	brmH;	Height of the secondary barometer above the maximum Summer load line.		0.0 m	No	
47	brmL;	Location of the primary barometer.	0204		Yes	
48	brmL;	Location of the secondary barometer.	0204		Yes	
49	brmU;	Pressure units of the primary barometer.			No	hPa
50	brmU;	Pressure units of the secondary barometer.			No	
51	brmC;	Most recent calibration date of the primary barometer.		ddmmyyyy	No	
52	brmC;	Most recent calibration date of the secondary barometer.		ddmmyyyy	No	

53	thrm;	Dry bulb thermometer type No.1.	2002		Yes	
54	thrm;	Dry bulb thermometer type No.2.	2002		Yes	
55	thMS;	Make and model of the dry bulb thermometer No.1.			No	Rosemount ST401
56	thMS;	Make and model of the dry bulb thermometer No.2.			No	
57	thmE;	Exposure of the dry bulb thermometer No.1.	0801		Yes	
58	thmE;	Exposure of the dry bulb thermometer No.2.	0801		Yes	
59	thmL;	Location of dry bulb thermometer No.1 and hgyrometer No.1.	2001		Yes	
60	thmL;	Location of dry bulb thermometer No.2 and hgyrometer No.2.	2001		Yes	
61	thmH;	Height of the dry bulb thermometer No.1 and hygrometer No.1 above the maximum Summer load line.		0.0 m	No	
62	thmH;	Height of the dry bulb thermometer No.2 and hygrometer No.2 above the maximum Summer load line.		0.0 m	No	
63	tscale;	General reporting practice for dry bulb thermometer No.1 and hygrometer No.1.	2003		Yes	
64	tscale;	General reporting practice for dry bulb thermometer No.2 and hygrometer No.2.	2003		Yes	
65	hygr;	Hygrometer type No.1.	0802		Yes	
66	hygr;	Hygrometer type No.2.	0802		Yes	
67	hgrE;	Exposure of the hygrometer No.1.	0801		No	
68	hgrE;	Exposure of the hygrometer No.2.	0801		No	
69	sstM;	Primary method of obtaining the sea surface temperature.	1901		Yes	
70	sstM;	Secondary method of obtaining the sea surface temperature.	1901		Yes	
71	sstD;	Depth of the primary sea surface temperature observation below the maximum Summer load line.		0.0 m	No	
72	sstD;	Depth of the secondary sea surface temperature observation below the maximum Summer load line.		0.0 m	No	
73	barg;	Primary barograph type, or method of determining pressure tendency.	0201		Yes	
74	barg;	Secondary barograph type, or method of determining pressure tendency.	0201		Yes	
75	anmT;	Primary anemometer type.	0102		Yes	
76	anmT;	Secondary anemometer type.	0102		Yes	
77	anmM;	Make and model of the primary anemometer.			No	Vaisala WAV151 & WAA151
78	anmM;	Make and model of the secondary anemometer.			No	
79	anmL;	Location of the primary anemometer.	0101		Yes	
80	anmL;	Location of the secondary anemometer.	0101		Yes	
81	anDB;	Distance of the primary (fixed) anemometer from the bow.		0.0 m	No	
82	anDB;	Distance of the secondary (fixed) anemometer from the bow.		0.0 m	No	

83	anDC;	Distance of the primary (fixed) anemometer from the centre line.		0.0 m	No	
84	anSC;	Side indicator of the primary (fixed) anemometer from the centre line, if appropriate.	0104		No	
85	anDC;	Distance of the secondary (fixed) anemometer from the centre line.		0.0 m	No	
86	anSC;	Side indicator of the secondary (fixed) anemometer from the centre line, if appropriate.	0104		No	
87	anHL;	Height of the primary (fixed) anemometer above the maximum Summer load line.		0.0 m	No	
88	anHL;	Height of the secondary (fixed) anemometer above the maximum Summer load line.		0.0 m	No	
89	anHD;	Height of the primary (fixed) anemometer above the deck on which it is installed.		0.0 m	No	
90	anHD;	Height of the secondary (fixed) anemometer above the deck on which it is installed.		0.0 m	No	
91	anmC;	Most recent calibration date of the primary anemometer.		ddmmyyyy	No	
92	anmC;	Most recent calibration date of the secondary anemometer.		ddmmyyyy	No	
93	othI;	Other meteorological/oceanographic instrument No.1.	1501		Yes	
94	othI;	Other meteorological/oceanographic instrument No.2.	1501		Yes	
95	othI;	Other meteorological/oceanographic instrument No.3.	1501		Yes	
96	othI;	Other meteorological/oceanographic instrument No.4.	1501		Yes	
97	othI;	Other meteorological/oceanographic instrument No.5.	1501		Yes	
98	othI;	Other meteorological/oceanographic instrument No.6.	1501		Yes	
99	chgd;	Last date of change to any metadata value.		ddmmyyyy	No	
100	fieldabbrev;	Code name of the field to which footnote No. 1 applies.	0601			vssl
101	fieldabbrev;	Code name of the field to which footnote No. 2 applies.	0601			thmE
102	fieldabbrev;	Code name of the field to which footnote No. 3 applies.	0601			
103	fieldabbrev;	Code name of the field to which footnote No. 4 applies.	0601			
104	fieldabbrev;	Code name of the field to which footnote No. 5 applies.	0601			
105	fieldabbrev;	Code name of the field to which footnote No. 6 applies.	0601			
106	fieldabbrev;	Code name of the field to which footnote No. 7 applies.	0601			
107	fieldabbrev;	Code name of the field to which footnote No. 8 applies.	0601			
108	fieldabbrev;	Code name of the field to which footnote No. 9 applies.	0601			
109	fieldabbrev;	Code name of the field to which footnote No. 10 applies.	0601			
110	footID;	Footnote No. 1 (Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				Ice strengthened
111	footID;	Footnote No. 2 (Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				Plastic screen
112	footID;	Footnote No. 3 (Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				
113	footID;	Footnote No. 4 (Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				

114	footID;	Footnote No. 5	(Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				
115	footID;	Footnote No. 6	(Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				
116	footID;	Footnote No. 7	(Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				
117	footID;	Footnote No. 8	(Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				
118	footID;	Footnote No. 9	(Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				
119	footID;	Footnote No. 10	(Mandatory extra details if code **OT** is reported. Optional if **Yes** in footnote column)				

Annex 2

WMO-No. 47

Metadata Format Version 03

XML exchange format – fields and descriptions

Order	Code Name	Header Code Name Explanation	Table	Format	Footnote*	Example
1	country	Recruiting country.	1801		No	
2	version	Metadata format version			No	03
3	prepared	Date of report preparation.		yyyymmdd	No	

Order	Code Name	Record Code Name Explanation	Table	Format	Footnote*	Example
1	nmsID	NMS reference number. Unique reference or identifier assigned by the NMS to the ship (if applicable).			No	
2	name	Ship's name.			No	
3	reg	Country of registration.	1801		No	
4	call	Call sign or WMO Number. Some sea stations are identified by a WMO Number instead of a call sign.			No	
5	IMOn	IMO Number. Unique identifying number assigned by Lloyd's Register to the hull of the ship.			No	
6	Vssl	Vessel type.	2201		Yes	
7	vsslP	Vessel digital image.	2203		No	
8	lenvsslD	Length overall of the ship, ignoring bulbous bow.		0.0 m	No	
9	brdvsslD	Moulded breadth. The greatest breadth amidships.		0.0 m	No	
10	frbvsslD	Freeboard. The average height of the upper deck above the maximum Summer load line.		0.0 m	No	
11	drfvsslD	Draught. The average depth of the keel below the maximum Summer load line.		0.0 m	No	
12	chtvsslD	Cargo height. Maximum height above the maximum Summer load line.		0.0 m	No	
13	brdg	Distance of the bridge from the bow.		0.0 m	No	
14	rte	Route No.1.	1802		Yes	
15	rte	Route No.2.	1802		Yes	
16	rte	Route No.3.	1802		Yes	

17	rte	Route No.4.	1802		Yes	
18	rte	Route No.5.	1802		Yes	
19	rte	Route No.6.	1802		Yes	
20	rte	Route No.7	1802		Yes	
21	rte	Route No.8.	1802		Yes	
22	rte	Route No.9.	1802		Yes	
23	rte	Route No.10.	1802		Yes	
24	vosR	Recruitment date of the current VOS participation.		yyyymmdd	No	
25	vosD	De-recruitment date of the last VOS participation (report only if the vessel has been re-recruited).		yyyymmdd	No	
26	vclmR	Last VOSClim recruitment date if within the current period of VOS participation.		yyyymmdd	No	
27	vclmD	Last VOSClim de-recruitment date if within the current period of VOS participation.		yyyymmdd	No	
28	vsslM	Type of meteorological reporting ship.	2202		Yes	
29	atm	General observing practice.	0105		Yes	
30	freq	Routine observing frequency.	0602		Yes	
31	prST	Satellite system for transmitting reports.			No	INMARSAT-C
32	logE	Name and version of the electronic logbook software.			No	TurboWin 2.12
33	wwH	Visual wind/wave observing height.		0.0 m	No	
34	anmU	General wind observing practice.	0103		Yes	
35	blc	Baseline check of the automatic weather station.	0203		Yes	
36	awsM	Make and model of the automatic weather station.			No	Vaisala Milos 500
37	awsP	Name and version of the automatic weather station processing software.			No	Yourlink 1.03.20
38	awsC	Name and version of the automatic weather station data entry/display software.			No	Milos 500 2.56
39	barm	Primary barometer type.	0202		Yes	
40	bMS	Make and model of the primary barometer.			No	Vaisala PTB220B
41	brmH	Height of the primary barometer above the maximum Summer load line.		0.0 m	No	
42	brmL	Location of the primary barometer.	0204		Yes	
43	brmU	Pressure units of the primary barometer.			No	hPa
44	brmC	Most recent calibration date of the primary barometer.		yyyymmdd	No	
45	barm	Secondary barometer type.	0202		Yes	
46	bMS	Make and model of the secondary barometer.			No	
47	brmH	Height of the secondary barometer above the maximum Summer load line.		0.0 m	No	

48	brmL	Location of the secondary barometer.	0204		Yes	
49	brmU	Pressure units of the secondary barometer.			No	
50	brmC	Most recent calibration date of the secondary barometer.		yyyymmdd	No	
51	thrm	Dry bulb thermometer type No.1.	2002		Yes	
52	thMS	Make and model of the dry bulb thermometer No.1.			No	Rosemount ST401
53	thmE	Exposure of the dry bulb thermometer No.1.	0801		Yes	
54	thmL	Location of dry bulb thermometer No.1 and hgyrometer No.1.	2001		Yes	
55	thmH	Height of the dry bulb thermometer No.1 and hygrometer No.1 above the maximum Summer load line.		0.0 m	No	
56	tscale	General reporting practice for dry bulb thermometer No.1 and hygrometer No.1.	2003		Yes	
57	thrm	Dry bulb thermometer type No.2.	2002		Yes	
58	thMS	Make and model of the dry bulb thermometer No.2.			No	
59	thmE	Exposure of the dry bulb thermometer No.2.	0801		Yes	
60	thmL	Location of dry bulb thermometer No.2 and hgyrometer No.2.	2001		Yes	
61	thmH	Height of the dry bulb thermometer No.2 and hygrometer No.2 above the maximum Summer load line.		0.0 m	No	
62	tscale	General reporting practice for dry bulb thermometer No.2 and hygrometer No.2.	2003		Yes	
63	hygr	Hygrometer type No.1.	0802		Yes	
64	hgrE	Exposure of the hygrometer No.1.	0801		Yes	
65	hygr	Hygrometer type No.2.	0802		Yes	
66	hgrE	Exposure of the hygrometer No.2.	0801		Yes	
67	sstM	Primary method of obtaining the sea surface temperature.	1901		Yes	
68	sstD	Depth of the primary sea surface temperature observation below the maximum Summer load line.		0.0 m	No	
69	sstM	Secondary method of obtaining the sea surface temperature.	1901		Yes	
70	sstD	Depth of the secondary sea surface temperature observation below the maximum Summer load line.		0.0 m	No	
71	barg	Primary barograph type, or method of determining pressure tendency.	0201		Yes	
72	barg	Secondary barograph type, or method of determining pressure tendency.	0201		Yes	
73	anmT	Primary anemometer type.	0102		Yes	
74	anmM	Make and model of the primary anemometer.			No	Vaisala WAV151 & WAA151
75	anmL	Location of the primary anemometer.	0101		Yes	
76	anDB	Distance of the primary (fixed) anemometer from the bow.		0.0 m	No	
77	anDC	Distance of the primary (fixed) anemometer from the centre line.		0.0 m	No	
78	anSC	Side indicator of the primary (fixed) anemometer from the centre line, if appropriate.	0104		No	

79	anHL	Height of the primary (fixed) anemometer above the maximum Summer load line.		0.0 m	No	
80	anHD	Height of the primary (fixed) anemometer above the deck on which it is installed.		0.0 m	No	
81	anmC	Most recent calibration date of the primary anemometer.		yyyymmdd	No	
82	anmT	Secondary anemometer type.	0102		Yes	
83	anmM	Make and model of the secondary anemometer.			No	
84	anmL	Location of the secondary anemometer.	0101		Yes	
85	anDB	Distance of the secondary (fixed) anemometer from the bow.		0.0 m	No	
86	anDC	Distance of the secondary (fixed) anemometer from the centre line.		0.0 m	No	
87	anSC	Side indicator of the secondary (fixed) anemometer from the centre line, if appropriate.	0104		No	
88	anHL	Height of the secondary (fixed) anemometer above the maximum Summer load line.		0.0 m	No	
89	anHD	Height of the secondary (fixed) anemometer above the deck on which it is installed.		0.0 m	No	
90	anmC	Most recent calibration date of the secondary anemometer.		yyyymmdd	No	
91	othI	Other meteorological/oceanographic instrument No.1.	1501		Yes	
92	othI	Other meteorological/oceanographic instrument No.2.	1501		Yes	
93	othI	Other meteorological/oceanographic instrument No.3.	1501		Yes	
94	othI	Other meteorological/oceanographic instrument No.4.	1501		Yes	
95	othI	Other meteorological/oceanographic instrument No.5.	1501		Yes	
96	othI	Other meteorological/oceanographic instrument No.6.	1501		Yes	
97	chgd	Last date of change to any metadata value.		yyyymmdd	No	

* Provision to report a footnote (Mandatory extra detail if **OT** is selected from a Code Table. Optional if **Yes** in footnote column)

Annex 3

WMO-No. 47

Metadata Format Version 03

XML File Structure

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Annex 4

WMO-No. 47

Metadata Format Version 03

Code Tables

Table	Code	Description
0101	anmL	Location of the anemometer.
0102	anmT	Anemometer type.
0103	anmU	General wind observing practice.
0104	anSC	Side indicator of the (fixed) anemometer from the centre line, if appropriate.
0105	atm	General observing practice.
0201	barg	Barograph type, or method of determining pressure tendency.
0202	barm	Barometer type.
0203	blc	Baseline check of the automatic weather station.
0204	brmL	Location of the barometer.
0601	fieldabbrev	Code name of the field to which the footnote applies (in order of reporting in pub47).
0602	freq	Routine observing frequency.
0801	hgrE	Exposure of the hygrometer.
	thmE	Exposure of the dry bulb thermometer.
0802	hygr	Hygrometer type.
1501	othI	Other meteorological/oceanographic instrument.
1801	rcnty	Recruiting country.
	reg	Country of registration.
1802	rte	Route.
1901	sstM	Method of obtaining the sea surface temperature.
2001	thmL	Location of the dry bulb thermometer and hygrometer
2002	thrm	Dry bulb thermometer type.
2003	tscale	General temperature reporting practice.
2201	vssl	Vessel type.
2202	vsslM	Type of meteorological reporting ship.
2203	vsslP	Vessel digital image.

Changes to Code Table entries are denoted by a solid black block to the extreme right.

0101

anmL **Location of the anemometer.**

Code	Description
1	Not fitted.
2	Mainmast.
3	Mainmast port yardarm.
4	Mainmast starboard yardarm.
5	Aft mast.
6	Foremast.
7	Foremast port yardarm.
8	Foremast starboard yardarm.
9	Meteorological mast.
10	Mast on wheelhouse top.
11	Mast on wheelhouse top port yardarm.
12	Mast on wheelhouse top starboard yardarm.
13	Handheld.
OT	Other (specify in footnote).

0102

anmT **Anemometer type.**

Code	Description
AN	Anemograph.
CCV	Cup anemometer and wind vane (combined unit).
SCV	Cup anemometer and wind vane (separate instruments).
HA	Handheld anemometer.
PV	Propeller vane.
SON	Sonic anemometer.
OT	Other (specify in footnote).

0103

anmU **General wind observing practice.**

Code	Description
1	Anemometer, true wind computed.
2	Anemometer, true wind manual.
3	Visual estimates (sea state).
4	Visual estimate (open sea), anemometer (near port).

0104

anSC **Side indicator of the (fixed) anemometer from the centre line, if appropriate.**

Code	Description
P	Port
S	Starboard

0105

Atm **General observing practice.**

Code	Description
1	Fully automated.
2	Always supplemented by manual input.
3	Occasionally supplemented by manual input.
4	Unknown.
5	Fully manual (no automation).

0201

Barg **Barograph type, or method of determining pressure tendency.**

Code	Description
OS	Open Scale barograph.
OS1	Open Scale barograph with 1 day clock.
OS2	Open Scale barograph with 2 day clock.
OS3	Open Scale barograph with 3 day clock.
OS4	Open Scale barograph with 4 day clock.
OS5	Open Scale barograph with 5 day clock.
OS6	Open Scale barograph with 6 day clock.
OS7	Open Scale barograph with 7 day clock.
OS8	Open Scale barograph with 8 day clock.
OS9	Open Scale barograph with 9 day clock.
SS	Small Scale barograph.
ET	Tendency obtained from an electronic digital barometer.
OT	Other (specify in footnote).

0202

Barm **Barometer type.**

Code	Description
AN	Aneroid barometer (issued by the PMO or a NMS).
DA	Digital aneroid barometer (aka Precision Aneroid Barometer).

ELE	Electronic digital barometer (consisting of one or more pressure transducers).
MER	Mercury barometer.
SAN	Ship's aneroid barometer.
OT	Other (specify in footnote).

0203

Blc **Baseline check of the automatic weather station.**

Code	Description
1	Yes - periodic baseline check to ensure system operating satisfactorily.
2	No.
3	No automation.

0204

brmL **Location of the barometer.**

Code	Description
CR	Chart room.
PW	Pressurised wheelhouse (closed and not vented to the outside).
WH	Wheelhouse, not pressurised (vented to the outside).
OT	Other (specify in footnote).

0601

Fieldabbrev **Code name of the field to which the footnote applies.**

Code	Description
vssl	Vessel type.
rte	Route
vsslM	Type of meteorological reporting ship.
atm	General observing practice.
freq	Routine observing frequency.
anmU	General wind observing practice.
blc	Baseline check of the automatic weather station.
barm	Barometer type.
brmL	Location of the barometer.
thrm	Dry bulb thermometer type.
thmE	Exposure of the dry bulb thermometer.
thmL	Location of the dry bulb thermometer and hgyrometer
tscale	General temperature reporting practice.
hygr	Hygrometer type.
hgrE	Exposure of the hygrometer.
sstM	Method of obtaining the sea surface temperature.

barg	Barograph type, or method of determining pressure tendency.
anmT	Anemometer type.
anmL	Location of the anemometer.
othI	Other meteorological/oceanographic instrument.

0602

Freq **Routine observing frequency.**

Code	Description
OPD	One observation per day (24 hour intervals).
TPD	Two observations per day (12 hour intervals).
FPD	Four observations per day (6 hour intervals).
EPD	Eight observations per day (3 hour intervals).
HLY	Hourly observations.
IRR	Irregular observations.

0801

hgrE **Exposure of the hygrometer.**
thmE **Exposure of the dry bulb thermometer.**

Code	Description
A	Aspirated (Assmann type).
S	Screen (non ventilated, i.e. natural ventilation).
VS	Screen (ventilated, i.e. assisted ventilation).
SN	Ship's screen (property of the ship).
SG	Ship's sling.
SL	Sling.
US	Unscreened.
W	Whirling psychrometer.

0802

Hygr **Hygrometer type.**

Code	Description
C	Capacitance.
CM	Chilled mirror.
E	Electric.
H	Hair hygrometer.
HG	Hygristor.
P	Psychrometer.
T	Torsion.

OT	Other (specify in footnote).

1501

othI **Other meteorological/oceanographic instrument.**

Code	Description
BAT	Bathythermometer.
BT	Bathythermograph (towed).
FLM	Fluorometer.
LWR	Long wave radiation.
MAX	Maximum thermometer.
MIN	Minimum thermometer.
NTE	Nitrate sensor.
NTT	Nutrient sensor.
P	Pilot ballon equipment.
CO2	pCO2 system.
PLK	Plankton recorder.
PRS	Photosynthetic radiation sensor.
PYG	Pyrogeometer.
R	Radiosonde equipment.
RG	Rain gauge.
RSD	Radar storm and meteorological phenomena detectiom.
RT	Reversing thermometer.
SKY	Sky camera.
SLM	Solarimeter.
ST	Sea thermograph.
SWR	Short wave radiation.
TSD	Temperature/salinity/depth probe.
TUR	Turbidity sensor.
W	Radiowind or radarwind equipment.
WR	Wave Recorder
XBT	Expendable bathythermograph.
OT	Other (specify in footnote).

1801

rcnty **Recruiting country.**
reg **Country of registration.**

Code	Description
AF	AFGHANISTAN
AL	ALBANIA
DZ	ALGERIA
AS	AMERICAN SAMOA
AD	ANDORRA
AO	ANGOLA
AI	ANGUILLA
AQ	ANTARCTICA
AG	ANTIGUA AND BARBUDA
AR	ARGENTINA
AM	ARMENIA
AW	ARUBA
AU	AUSTRALIA
AT	AUSTRIA
AZ	AZERBAIJAN
BS	BAHAMAS
BH	BAHRAIN
BD	BANGLADESH
BB	BARBADOS
BY	BELARUS
BE	BELGIUM
BZ	BELIZE
BJ	BENIN
BM	BERMUDA
BT	BHUTAN
BO	BOLIVIA
BA	BOSNIA AND HERZEGOVINA
BW	BOTSWANA
BV	BOUVET ISLAND
BR	BRAZIL
IO	BRITISH INDIAN OCEAN TERRITORY
BN	BRUNEI DARUSSALAM
BG	BULGARIA
BF	BURKINA FASO
BI	BURUNDI
KH	CAMBODIA
CM	CAMEROON
CA	CANADA
CV	CAPE VERDE
KY	CAYMAN ISLANDS
CF	CENTRAL AFRICAN REPUBLIC
TD	CHAD

CL	CHILE
CN	CHINA
CX	CHRISTMAS ISLAND
CC	COCOS (KEELING) ISLANDS
CO	COLOMBIA
KM	COMOROS
CG	CONGO
Code	**Description**
CD	CONGO, THE DEMOCRATIC REPUBLIC OF THE
CK	COOK ISLANDS
CR	COSTA RICA
CI	COTE D'IVOIRE
HR	CROATIA
CU	CUBA
CY	CYPRUS
CZ	CZECH REPUBLIC
DK	DENMARK
DJ	DJIBOUTI
DM	DOMINICA
DO	DOMINICAN REPUBLIC
TP	EAST TIMOR
EC	ECUADOR
EG	EGYPT
SV	EL SALVADOR
GQ	EQUATORIAL GUINEA
ER	ERITREA
EE	ESTONIA
ET	ETHIOPIA
FK	FALKLAND ISLANDS (MALVINAS)
FO	FAROE ISLANDS
FJ	FIJI
FI	FINLAND
FR	FRANCE
GF	FRENCH GUIANA
PF	FRENCH POLYNESIA
TF	FRENCH SOUTHERN TERRITORIES
GA	GABON
GM	GAMBIA
GE	GEORGIA
DE	GERMANY
GH	GHANA
GI	GIBRALTAR
GR	GREECE
GL	GREENLAND
GD	GRENADA
GP	GUADELOUPE
GU	GUAM
GT	GUATEMALA
GN	GUINEA

GW	GUINEA-BISSAU
GY	GUYANA
HT	HAITI
HN	HONDURAS
HK	HONG KONG
HU	HUNGARY
IS	ICELAND
IN	INDIA
ID	INDONESIA
IR	IRAN, ISLAMIC REPUBLIC OF
IQ	IRAQ
IE	IRELAND
IL	ISRAEL
IT	ITALY
Code	**Description**
JM	JAMAICA
JP	JAPAN
JO	JORDAN
KZ	KAZAKSTAN
KE	KENYA
KI	KIRIBATI
KP	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
KR	KOREA, REPUBLIC OF
KW	KUWAIT
KG	KYRGYZSTAN
LA	LAO PEOPLE'S DEMOCRATIC REPUBLIC
LV	LATVIA
LB	LEBANON
LS	LESOTHO
LR	LIBERIA
LY	LIBYAN ARAB JAMAHIRIYA
LI	LIECHTENSTEIN
LT	LITHUANIA
LU	LUXEMBOURG
MO	MACAU
MK	MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF
MG	MADAGASCAR
MW	MALAWI
MY	MALAYSIA
MV	MALDIVES
ML	MALI
MT	MALTA
MH	MARSHALL ISLANDS
MQ	MARTINIQUE
MR	MAURITANIA
MU	MAURITIUS
YT	MAYOTTE
MX	MEXICO
FM	MICRONESIA, FEDERATED STATES OF

MD	MOLDOVA, REPUBLIC OF
MC	MONACO
MN	MONGOLIA
MS	MONTSERRAT
MA	MOROCCO
MZ	MOZAMBIQUE
MM	MYANMAR
NA	NAMIBIA
NR	NAURU
NP	NEPAL
NL	NETHERLANDS
AN	NETHERLANDS ANTILLES
NC	NEW CALEDONIA
NZ	NEW ZEALAND
NI	NICARAGUA
NE	NIGER
NG	NIGERIA
NU	NIUE
NF	NORFOLK ISLAND
MP	NORTHERN MARIANA ISLANDS
NO	NORWAY
Code	**Description**
OM	OMAN
PK	PAKISTAN
PW	PALAU
PS	PALESTINIAN TERRITORY, OCCUPIED
PA	PANAMA
PG	PAPUA NEW GUINEA
PY	PARAGUAY
PE	PERU
PH	PHILIPPINES
PN	PITCAIRN
PL	POLAND
PT	PORTUGAL
PR	PUERTO RICO
QA	QATAR
RE	RÉUNION
RO	ROMANIA
RU	RUSSIAN FEDERATION
RW	RWANDA
SH	SAINT HELENA
KN	SAINT KITTS AND NEVIS
LC	SAINT LUCIA
PM	SAINT PIERRE AND MIQUELON
VC	SAINT VINCENT AND THE GRENADINES
WS	SAMOA
SM	SAN MARINO
ST	SAO TOME AND PRINCIPE
SA	SAUDI ARABIA

SN	SENEGAL
SC	SEYCHELLES
SL	SIERRA LEONE
SG	SINGAPORE
SK	SLOVAKIA
SI	SLOVENIA
SB	SOLOMON ISLANDS
SO	SOMALIA
ZA	SOUTH AFRICA
GS	SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS
ES	SPAIN
LK	SRI LANKA
SD	SUDAN
SR	SURINAME
SJ	SVALBARD AND JAN MAYEN
SZ	SWAZILAND
SE	SWEDEN
CH	SWITZERLAND
SY	SYRIAN ARAB REPUBLIC
TW	TAIWAN, PROVINCE OF CHINA
TJ	TAJIKISTAN
TZ	TANZANIA, UNITED REPUBLIC OF
TH	THAILAND
TG	TOGO
TK	TOKELAU
TO	TONGA
TT	TRINIDAD AND TOBAGO
TN	TUNISIA
Code	**Description**
TR	TURKEY
TM	TURKMENISTAN
TC	TURKS AND CAICOS ISLANDS
TV	TUVALU
UG	UGANDA
UA	UKRAINE
AE	UNITED ARAB EMIRATES
GB	UNITED KINGDOM
US	UNITED STATES
UM	UNITED STATES MINOR OUTLYING ISLANDS
UY	URUGUAY
UZ	UZBEKISTAN
VU	VANUATU
VE	VENEZUELA
VN	VIET NAM
VG	VIRGIN ISLANDS, BRITISH
VI	VIRGIN ISLANDS, U.S.
WF	WALLIS AND FUTUNA
EH	WESTERN SAHARA
YE	YEMEN

YU	YUGOSLAVIA
ZM	ZAMBIA
ZW	ZIMBABWE

1802

rte **Route**

notes Consolidated list of routes to be approved at SOT-IV, April 2007.

(Reserved for future routes list)

1901

sstM **Method of obtaining the sea surface temperature.**

Code	Description
BTT	Bait tanks thermometer.
BU	Bucket thermometer.
C	Condensor Intake on Steam Ships, or Engine Cooling System Inlet on Motor Ships.
HC	Hull contact sensor.
HT	"Through Hull" sensor.
RAD	Radiation thermometer.
TT	Trailing thermistor.
OT	Other (specify in footnote).

2001

thmL **Location of the dry bulb thermometer and hgyrometer**

Code	Description
1	Bridge wing port.
2	Bridge wing starboard.
3	Bridge wing both sides.
4	Bridge wing windward side.
5	Wheelhouse top port.
6	Wheelhouse top starboard.
7	Wheelhouse top both.
8	Wheelhouse top center.
9	Wheelhouse top windward side.
10	Mainmast.
11	Foremast.
12	Mast on wheelhouse top.
13	Main deck port side.
14	Main deck starboard side.
15	Main deck both sides.
OT	Other (specify in footnote).

2002

thrm **Dry bulb thermometer type.**

Code	Description
ALC	Alcohol thermometer.
MER	Dry bulb mercury thermometer.
ELE	Electric (resistance) thermometer.

2003

tscale **General temperature reporting practice.**

Code	Description
1	Centigrade to tenths.
2	Half degrees centigrade.
3	Whole degree centigrade.
4	Whole degree fahrenheit.
5	Fahrenheit to tenths.
6	Dry bulb centigrade, wet bulb fahrenheit.
7	Dry bulb fahrenheit, wet bulb centigrade.
OT	Other combinations or scale (specify in footnote).

notes

OT Replaces former code **8**

2201

vssl **Vessel type.**

Code	Description
BA	Barges, including crane barges and tank barges.
BC	Bulk Carriers, including Ore/Bulk/Oil (OBO) carriers and Ore/Oil carriers.
CA	Cable ships.
CG	Coastguard cutters, patrol ships and launches.
CS	Container ships, including open and closed container ships and refrigerated container ships.
DR	Dredgers including bucket, hopper, grab and suction dredgers.
FE	Passenger ferries (carrying passengers only).
FP	Floating Production and Storage Units.
FV	Fishing Vessels including purse seiners, long liners etc., but excluding trawlers.
GC	General Cargo ships with one or more holds.
GT	Liquefied gas carriers/tankers including LNG and LPG carriers.
IC	Icebreaking vessels (dedicated vessel). If the vessel fits in another category and is ice strengthened then include ‘ice strengthened’ as a footnote.
LC	Livestock Carrier (dedicated ship for the carriage of livestock).
LT	Liquid tankers including oil product tankers, chemical tankers and crude oil tankers (including VLCC’s and ULCC’s).
LV	Light vessels.
MI	Mobile installations, including mobile offshore drill ships, jack-up rigs, semi-submersibles.
MS	Military ships.
OW	Ocean Weather Ships (dedicated weather ship).
PI	Pipe Layers.

PS	Passenger ships and Cruise liners.
RF	Ro Ro ferries (carrying passengers and laden vehicles).
RR	Ro Ro cargo ships for carriage of road and/or rail vehicles and cargo, including containerised cargo.
RS	Refrigerated cargo ships including banana ships.
RV	Research Vessels, including oceanographic, meteorological and hydrographic research ships and seismographic research ships.
SA	Large sailing vessels, including sail training vessels.
SV	Support vessels including offshore support vessels, offshore supply vessels, stand-by vessels, pipe carriers, anchor handling vessels, buoy tenders (including coastguard vessels engaged solely on buoy tending duties), diving support vessels, etc.
TR	Trawler fishing vessels.
TU	Tugs, including fire-fighting tugs, salvage tugs, pusher tugs, pilot vessels, tenders etc.
VC	Vehicle Carriers: dedicated multi deck ships for the carriage of new unladen road vehicles.
YA	Yachts and pleasure craft.
OT	Other (specify in footnote).

notes

FV or TR	To be used instead of the former code **IF** which is deleted.
CS	To be used for both open and closed container ships with similar profiles. The former code **CC** (Closed Container) is deleted.
PS	Replaces former codes **PV** (Passenger Vessel) and **PL** (Passenger Liner) which are both deleted. This avoids possible confusion about the type of vessel in service.
RS	Replaces former code **BS** (Banana Ships) which is deleted. This represented only one type of refrigerated ship.
BA, FE, TR, YA	Replaces former codes **B, F, T** and **Y** respectively which are deleted.

2202

vsslM **Type of meteorological reporting ship.**

Code	Description
10	Selected.
40	Supplementary.
70	Auxiliary.
OT	Other (specify in footnote).

notes

10	Replaces former codes 20, 21 and 22 which were vessel type specific.
40	Replaces former codes 60 and 61 which were vessel type specific.
70	Replaces former codes 80 and 81 which were vessel type specific.
OT	Replaces former code **99**

Codes **88-90**, formerly used by the USA, are deleted in favour of the generic codes
10, **40** and **70**.

2203

VsslP **Vessel digital image.**

Code	Description
AV	Available in separate digital file (see note for file naming convention).
NA	Not available.
PA	Photo available but not yet scanned.

notes See Annex 6 for the recommended VOS and VOSClim minimum suite of digital images and drawings

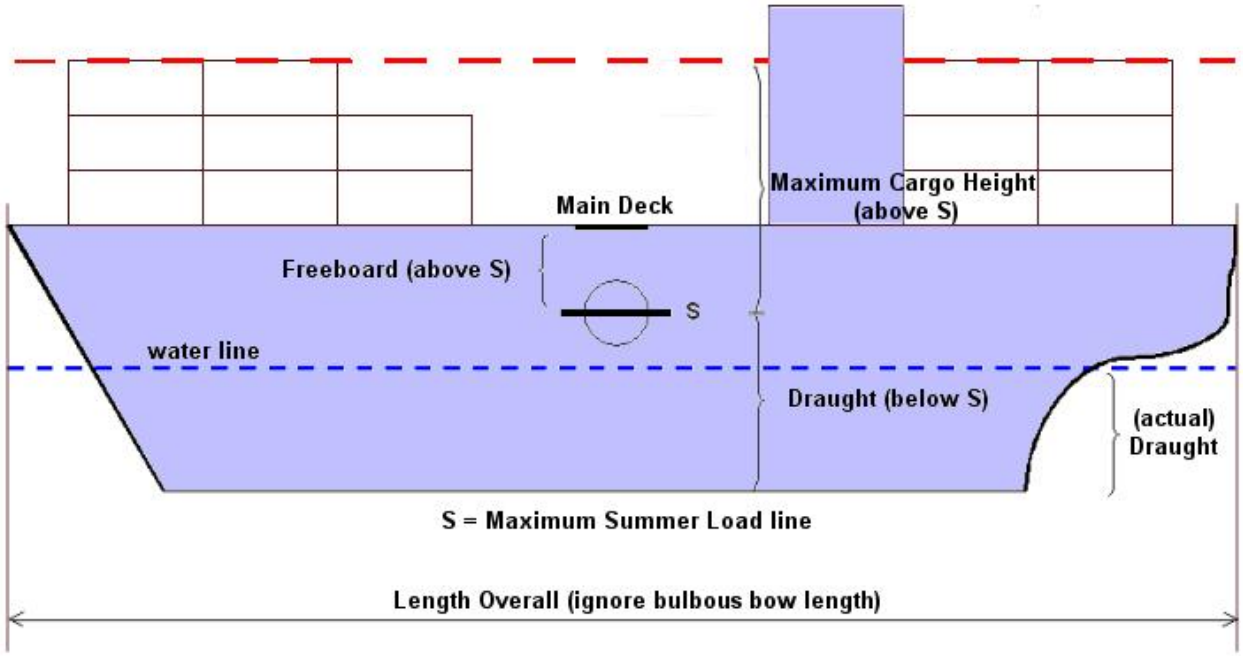
Digital image file-naming convention:
"00" & "IMO Number" & "image_description" & "date", where the date format shall be YYYYMMDD, e.g.
007417868aerial_starboard_profile_from_stern20030717.jpg

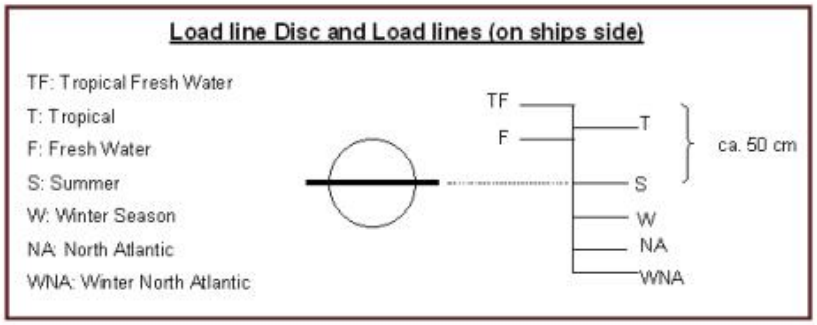
Annex 5

WMO-No. 47

Metadata Format Version 03

Ship's Layout Diagram





Annex 6

WMO-No. 47

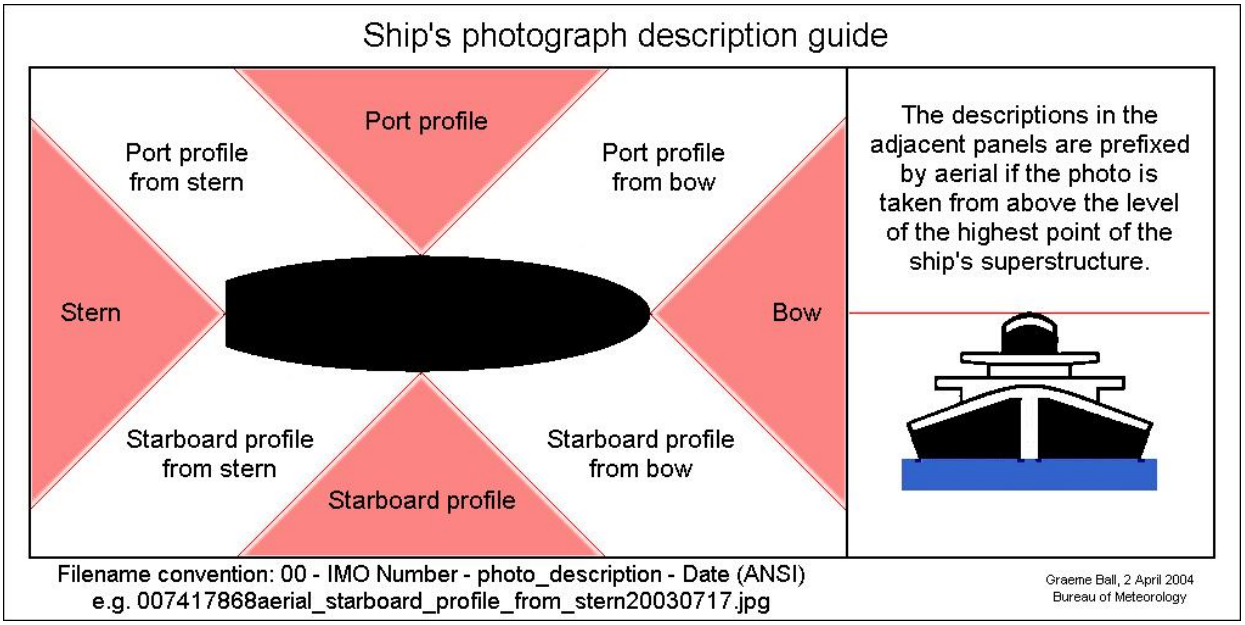
Metadata Format Version 03

Vessel Digital Images (Code Table 2203)

1. Recommended minimum suite of digital images/photographs

Description	VOS	VOSClim
Exposure of screen(s) showing the location of any adjacent obstructions, over-hangings, etc	Yes	Yes
Exposure of anemometer (if applicable)	Yes	Yes
Exposure of other meteorological instruments	Optional	Yes
Ship's profile – quayside or at sea if possible	Yes	Yes
Deck cargo stowage	Optional	Yes

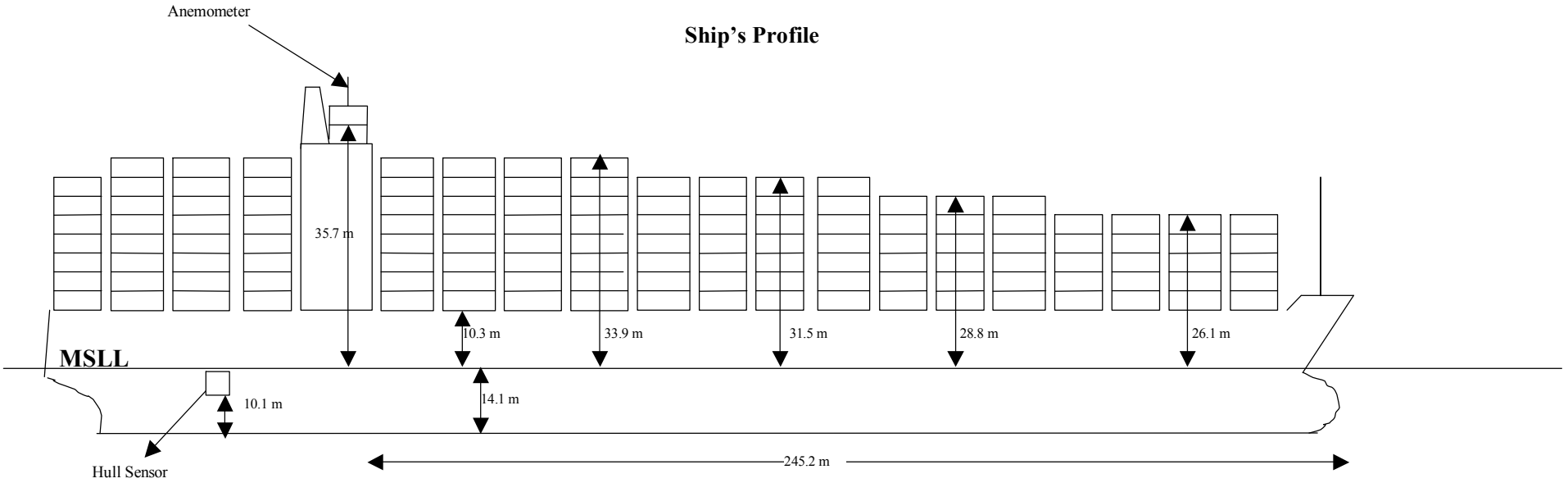
2. Suggested descriptions of profile photographs



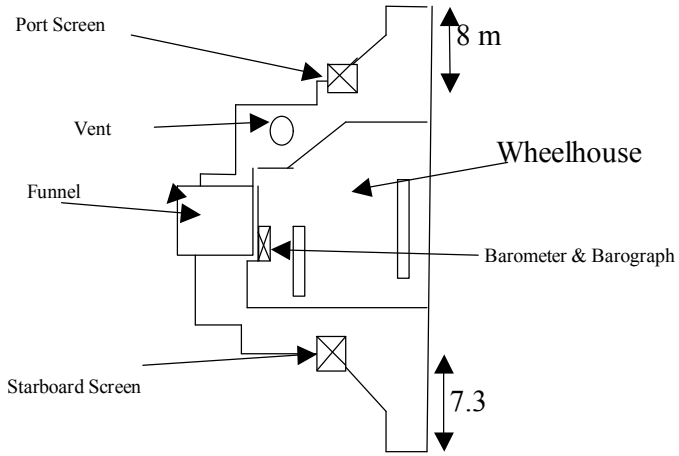
3. Suggested drawings/sketches

Description	VOS	VOSClim
Ship's general profile – basic sketch showing instrument location and dimensions	Optional	Yes
Navigational Bridge Deck/wheelhouse plan – basic sketch showing instrument location	Optional	Yes
General Arrangement Plan or drawing	Optional	Optional

4. Sample sketches



Ship's Profile



Navigating Bridge Deck

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Annex 7

WMO-No. 47

Metadata Format Version 03

Summary of changes from version 2

Field	Name	Comment
anDC	Distance of the fixed anemometer from the centre line	No longer includes the indicator for which side of the centre line the anemometer is located.
anmT	**Type of Anemometer**	**New field and accompanying Code Table**
anSC	**Side indicator of the anemometer from the centre line**	**New field and accompanying CodeTable. This indicator was previously reported appended to the field anDC.**
awsM	**Make and model of automatic weather station**	**New field**
awsP	**Name and version of AWS processing software**	**New field**
awsC	**Name and version of AWS console software**	**New field**
barg	Type of Barograph	New Code Table entry and revised field description
barm	Type of Barometer	New and revised Code Table entries
brmL	Barometer Location	New Code Table entry
freq	**Routine frequency of observations**	**New field and associated Code Table**
hgrE	Hygrometer Exposure	Revised Code Table entry descriptions
logE	**Name and version of electronic logbook software**	**New field.**
othI	Other Instruments	New Code Table entries
reg	Country of Registration	New field with accompanying Code Table. Previously reported in parenthesis with ship name if the country of registration was different to the country of recruitment.

rte	Routes	New global route definitions to replace separate national routes are replaced by a consolidated global list.
thmE	Thermometer Exposure	Revised Code Table entry descriptions
tscale	Temperature Scale	Revised Code Table entry
vclmR	**Last VOSClim recruitment date in the current period of VOS participation**	**New field**
vclmD	**Last VOSClim de-recruitment date in the current period of VOS participation**	**New field**
ver	**Version of WMO-No. 47 format**	**New field. This version is 03.**
vosD	**De-recruitment date of the last VOS participation**	**New field**
vosR	**Recruitment date of the current VOS participation**	**New field**
vssl	Type of Vessel	New and revised Code Table entries.
vsslM	Type of Meteorological Reporting Vessel	Revised Code Table entries.
vsslP	Vessel Digital Image	Revised Code Table entry

Vessel Dimensions		
lenvsslD	Length overall of the ship, ignoring bulbous bow	More precise description
brdvsslD	Moulded breadth. The greatest breadth amidships	More precise description
frbvsslD	Freeboard. The average height of the upper deck above the maximum Summer load line	More precise description
drfvsslD	Draught. The average depth of the keel below the maximum Summer load line	More precise description

Redefined Field Definitions		
Field	**Version 2 Definition**	**Version 3 Definition**
chtvsslD	Average cargo height	Maximum cargo height.
prSt	Teleprinter and Satellite	Satellite system for transmitting observations.

Other Changes		
phGr	Telephony and Telegraphy	Field deleted.
	Footnotes	Mandatory if element is reported using code figure **OT**. Optional for any other element reported from a Code Table. The semi-colon delimited file is limited to 10 footnotes. There is no restriction on the number of footnotes reported in the XML file.