

WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC  
COMMISSION (OF UNESCO)

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

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FIRST SESSION

ITEM 5.3

GDYNIA, POLAND, 7 TO 10 JULY 2004

Original: ENGLISH

### OLD VERSIONS OF WMO-No.47

*(Submitted by Mr Scott Woodruff)*

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#### Summary and Purpose of Document

This document provides the current status of the Climate Database Modernization Programme (CDMP) of NOAA under which the older versions of WMO-No. 47 are being digitized.

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#### ACTION PROPOSED

The Expert Team on Marine Climatology is invited to give comments and recommendations on the project, especially regarding the availability of the digitized data.

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**Appendix:** Older Versions of the *International List of Selected, Supplementary (and Auxiliary) Ships*, WMO-No. 47

## **DISCUSSION**

### **Introduction**

1. Older Versions of the *International List of Selected, Supplementary (and Auxiliary) Ships*, WMO–No. 47 are being digitized under the Climate database Modernization Programme (CDMP) of NOAA. The current status of the CDMP project is reported in Appendix A.

### **Action proposed**

2. The Team is invited to give comments and recommendations on the project, especially regarding the availability of the digitized data.

## Older Versions of the International List of Selected, Supplementary (and Auxiliary) Ships, WMO–No.47 (S. Woodruff, 3 June 2004)

### 1. Background

WMO publication No.47 (1955-) provides ship characteristics and instrumentation details (e.g., ship name, call sign, barometer/thermometer types, method of obtaining sea surface temperature; and, in later editions, height of anemometer and additional details) on an approximately annual basis from maritime countries participating in the WMO Voluntary Observing Ships (VOS) scheme.

These metadata have been linked with ships' meteorological observations back to 1973 as part of climate studies (e.g., Kent and Taylor, 1997), and work is now underway to blend selected metadata prepared by the Southampton Oceanography Centre, with individual marine reports for, initially, 1980-97 from the International Comprehensive Ocean-Atmosphere Data Set (ICOADS).

Prior to the 1973 edition, however, WMO–No.47 was published and previously available only in paper form. An international workshop (Diaz et al., 2002) recommended that the earlier editions be digitized. This is being undertaken under a project funded by the Climate Database Modernization Program (CDMP) of the US National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center (NCDC), in conjunction with NOAA's Climate Diagnostics Center (CDC).

### 2. Imaging

By early 2004, the CDMP project imaged all the editions and supplements (Table 1) that were located at WMO and from international sources (Table 2). The volumes were reproduced by permission of WMO, and we gratefully acknowledge the assistance of the Japan Meteorological Organization (JMA) and the UK Met Office (MetO) in providing photocopies of two editions.

These volumes were scanned as TIF images (stored in CDMP's image archive) and converted into 16 searchable multi-page PDF files. The PDF files are available from the ICOADS website:

[http://www.cdc.noaa.gov/coads/metadata/wmo47/cdmp\\_1955-72/](http://www.cdc.noaa.gov/coads/metadata/wmo47/cdmp_1955-72/)

Alternatively, the volumes can be obtained from WMO or CDMP.

**Table 1:** Editions and supplements of WMO–No.47 imaged for this project. Only one original supplement was located (1964), and three others were received already incorporated into copies of the 1966 edition, as listed in this table. It is not known whether any additional supplements were issued.

<u>Year</u>	<u>Edition</u>	<u>Explanatory notes</u>
1955	Ed.(1)1955	Volumes were hard-bound through the 1963 Edition
1956	Ed.(2)1956	
1957	Ed.(3)1957	
1958	Ed.(4)1958	
1959	Ed.(5)1959	Including Cyrillic characters for USSR call signs
1960	Ed.(6)1960	"
1961	Ed.(7)1961	"
1962	Ed.(8)1962	"
1963	Ed.(9)1963	"
1964	Supp.1964	Indicates amendments and insertions
1966	Ed.(10)1966	Loose-leaf binding adopted "to simplify keeping the publication up to date"
1968	Ed.(10)1966+1+2	1966 edition with two supplements: Supp. 1(X) (1967), Supp. 2(V) (1968) <sup>1</sup>
1968	Ed.(10)1966+1+2+3	1966 edition with three supplements: above, plus Supp. 3(XII) (1968) <sup>1</sup>
1970	Ed.1970	Edition numbering (previously listed in Introduction) was dropped starting in 1970
1971	Ed.1971	
1972	Ed.1972	

1. The indicated supplements (Roman numeral = month) had been successively applied to the original 1966 edition, resulting in one volume.

**Table 2:** Organizational sources for the imaged editions and supplements of WMO-No.47. The holdings (number of copies) of these and other surveyed libraries or organizations are also listed.

<i>Source</i>	<i>Edition</i>	<i>WMO</i>	<i>CDC</i> <sup>1</sup>	<i>MetO</i>	<i>MIT</i> <sup>2</sup>	<i>NOAA</i> <sup>3</sup>	<i>NCAR</i>	<i>UWA</i> <sup>5</sup>	<i>LibC</i> <sup>6</sup>	<i>JMA</i>
WMO	Ed.(1)1955	1		1						
WMO	Ed.(2)1956	1		1					1	
WMO	Ed.(3)1957	1		1				1		
WMO	Ed.(4)1958	1		1				1		
WMO	Ed.(5)1959	1		1						
WMO	Ed.(6)1960	1		1				1		
WMO	Ed.(7)1961	1		1						
WMO	Ed.(8)1962	1		1				1		
CDC	Ed.(9)1963	1	1	1				1		
CDC	Supp.1964		1	1						
CDC	Ed.(10)1966		1		1			1		
JMA	Ed.(10)1966+1+2									1 <sup>7</sup>
WMO	Ed.(10)1966+1+2+3	1		1						
NCDC	Ed.1970	1		1	1	1	2	1	1	
CDC	Ed.1971		1	1				1		
MetO	Ed.1972			1 <sup>7</sup>				1		

1. Provided by WMO to CDC in 1994. Donated, after imaging, to the NCDC Library in Asheville, NC, for permanent retention.

2. Library of the Massachusetts Institute of Technology.

3. Refers both to the NOAA Central Library in Silver Spring, MD, and to the NCDC Library (both held only 1970).

4. Library of the US National Center for Atmospheric Research.

5. Library of the University of Washington.

6. Library of Congress.

7. Original was not loaned; organization provided a photocopy for this project.

### 3. Digitization

The second part of the task, also funded by CDMP, will be to transform metadata from the imaged volumes into usable alphanumeric metadata by optical character recognition (OCR) and/or keying. We hope to complete this by late 2004 or early 2005. Kent and Oakley (1995) consistently reformatted the 1973-92 metadata into a comma-delimited format (omitting some information such as ship routes), which will be useful to consider as a digitization model. (Note: the reformatted metadata for 1973-92 are also available from the ICOADS website:

[http://www.cdc.noaa.gov/coads/metadata/wmo47/kent\\_1973-94/.](http://www.cdc.noaa.gov/coads/metadata/wmo47/kent_1973-94/))

Keying formats will be developed through study of the imaged editions, which contain changes and additions through time (e.g., expansion to 15 columns of information by 1972, from eight in 1955), to ensure that the useful scientific information is extracted as uniformly as possible. In some editions (see Table 1), Cyrillic characters (USSR ship call signs) appear. We plan to develop procedures as part of the digitization to transcribe these into Latin characters. Also, some of the printed material in the earliest editions (for countries such as Belgium and France) appears in French, and may have to be translated.

During digitization, we plan to include dates associated with the metadata (which often appear on an initial page of each country's metadata section), plus the identity and date of the edition or of the supplement (in the event pages have been inserted). E.g., the 1964 supplement provided instructions to manually amend, delete, or insert pages, presumably intended to bring the 1963 edition up to date. Consideration will have to be given to how to incorporate these various updates into the digitization plan.

The resultant 1955-72 metadata should be useful to establish further blended products with ICOADS observations, or for independent analysis of the metadata (i.e., without linkage to the observations). Linkage with the observations will likely prove more difficult back to 1955, since early versions (e.g., 1963 and 1968) of the IMMT format lacked call sign or ship name (containing only optional fields for "ship or log number"), and since telecommunicated reports (containing radio call signs) date only from 1966 in ICOADS.

**References**

- Diaz, H., C. Folland, T. Manabe, D. Parker, R. Reynolds, and S. Woodruff, 2002: Workshop on Advances in the Use of Historical Marine Climate Data, *WMO Bulletin*, **51**(4), 377-380.
- Kent, E. and D. Oakley, 1995: Report on Characteristics of WMO47 Metadata. Southampton Oceanography Centre, James Rennell Division, Internal Report, 85 pp.
- Kent, E.C. and P.K. Taylor, 1997: Choice of a Beaufort equivalent scale. *J. Atmos. Oceanic Technol.*, **14**, 228-242.
- WMO, 1955-: *International List of Selected, Supplementary and Auxiliary Ships*. WMO-No. 47, Geneva, Switzerland (serial publication; recently annual). [Note: Editions prior to 1970 were entitled *International List of Selected and Supplementary Ships*.]