

**WORLD METEOROLOGICAL ORGANIZATION**

---

**INTERGOVERNMENTAL OCEANOGRAPHIC  
COMMISSION (OF UNESCO)**

---

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

SOT-V/Doc. I-3.1.2  
(30.03.2009)

---

SHIP OBSERVATIONS TEAM

ITEM I-3.1.2

FIFTH SESSION

GENEVA, SWITZERLAND, 18-22 MAY 2009

Original: ENGLISH

**USE OF VOS DATA IN CLIMATE PRODUCTS**

*(Submitted by David Berry, Scott Woodruff and Elizabeth Kent)*

---

**Summary and purpose of the document**

This document provides an overview of scientific requirements regarding the use of VOS data in climate products.

---

**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 recommendations.

---

**Appendix:** None

**- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT****I-3.1.2.1 CLIMAR-III**

Mr David Berry (National Oceanography Centre, Southampton, United Kingdom) reported on the outcome of the Third JCOMM Workshop on Advances in Marine Climatology (CLIMAR-III) which was held in Gdynia, 6-9 May 2008, Poland. The objectives of the meeting were: to review ongoing developments in the flow and standardization of marine (meteorological and oceanographic) data and metadata under JCOMM; to foster and coordinate the development of marine meteorological and oceanographic climate data and products, including ICOADS; and to encourage appropriate contributions for the Dynamic Part of the *WMO Guide to the Applications of Marine Climatology*. Most of the presentations [<http://icoads.noaa.gov/climar3/>] used ship data from VOS and its predecessors or considered the management or enhancement of these data, a special issue of the *International Journal of Climatology* will again form the dynamic part of the *WMO Guide to the Applications of Marine Climatology*.

**I-3.1.2.2 Observing System**

Mr Berry reported that the VOS contribution to climate observing was highlighted in several Community White Papers (CWP) to be presented at OceanObs09, 21-25 September 2009, Venice, Italy. These include CWP on the VOS, the climate record for Sea Surface Temperature (SST) and for surface fluxes [<http://www.oceanobs09.net/cwp/index.php>]. Research on progress toward assessing the surface meteorological observing system adequacy for climate applications was presented at SOT-IV and at CLIMAR-III. Resource limitations have meant that no further progress on this can be reported.

**I-3.1.2.3 VOS Issues Related to Climate Applications**

I-3.1.2.3.1 The meeting noted that the masking of VOS callsigns remained an issue for climate applications whilst SOT and the operators developed and implemented suitable systems. In 2008 a report, "The Case for Maintaining Surface Meteorological Data Collection from Voluntary Observing Ships" (Kent et al. 2008), was presented to the Atmospheric Observations and Ocean Observations Panels for Climate (AOPC and OOPC). AOPC called for the effects of ship masking to be minimized, and the World Climate Research Program (WCRP) Observations and Assimilation Panel (WOAP) also called for unique platform identifiers.

I-3.1.2.3.2 The move by WMO toward BUFR and other Table Driven Codes remains of concern. Although there has been some interaction between CBS and the JCOMM Expert Team on Marine Climatology (ETMC) a more comprehensive approach across JCOMM is required.

I-3.1.2.3.3 Mr Berry reported that timeliness of Pub. 47 metadata availability at WMO remained unsatisfactory. This issue will be addressed under agenda item I-4.5.

I-3.1.2.3.4 Mr Berry invited the Team to support the ETMC proposal for modernization of the delayed-mode VOS data flow. This issue will be further discussed under agenda item SOT-V/III-3.5.

I-3.1.2.3.5 The Team noted that a study by ETMC comparing the content of different GTS streams for climate applications was completed [not completed at the time of writing this report but it should be completed by SOT-V].

**I-3.1.2.4 The meeting made the following recommendations:**

- (i) WMO Publication No. 47 metadata should be available promptly.

- (ii) All ship identifiers should be made available in delayed mode and as many as possible in real time.
- (iii) The efforts of the JCOMM data management co-ordination group to develop a consistent approach to the development of data codes within WMO should be welcomed.

**- B - BACKGROUND INFORMATION**

Charpentier, E., D.E. Harrison, J. R. Keeley, E.C. Kent, M. Mietus, N. Rayner, M. Rutherford, V. Swail, and S. Woodruff, 2008: Third JCOMM Workshop on Advances in Marine Climatology (CLIMAR-III). *MeteoWorld*, December 2008

[\[http://www.wmo.int/pages/publications/meteoworld/archive/dec08/climar\\_en.html\]](http://www.wmo.int/pages/publications/meteoworld/archive/dec08/climar_en.html).

AOPC, 2008: Fourteenth Session of the GCOS/WCRP Atmospheric Observation Panel for Climate (AOPC-XIV, Geneva, 21-25 April 2008) CONCLUSIONS AND RECOMMENDATIONS, GCOS – 122 WCRP 9/2008 (WMO/TD No. 1436) [\[http://www.wmo.ch/pages/prog/gcos/Publications/gcos-114.pdf\]](http://www.wmo.ch/pages/prog/gcos/Publications/gcos-114.pdf).

Kent E.C., S. Woodruff, D. Berry, E. Gowland, S. Gulev, C. Hahn, S. Josey, J. Kennedy, N. Rayner, R. Reynolds, N. Scott, S. Smith, V. Swail, P. Taylor and S. Warren, 2008: The Case for Maintaining Surface Meteorological Data Collection from Voluntary Observing Ships, 3rd Meeting of the WCRP Observations and Assimilation Panel, 29 September-1 October 2008 - Boulder, Colorado, USA.

WOAP, 2008: WCRP Observation and Assimilation Panel (WOAP) Report from the Third WOAP Meeting (WOAP-3) Boulder, CO, USA 29 Sep.-1 Oct. 2008, WCRP Informal Report No. 10/2008, GCOS Publication No. 125 [\[http://wcrp.wmo.int/documents/Report\\_WOAP3\\_Nov2008.pdf\]](http://wcrp.wmo.int/documents/Report_WOAP3_Nov2008.pdf)

---

Appendix: None