

WORLD METEOROLOGICAL ORGANIZATION

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INTERGOVERNMENTAL OCEANOGRAPHIC  
COMMISSION (OF UNESCO)

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

SHIP OBSERVATIONS TEAM (SOT)

EIGHTH SESSION

CAPE TOWN, SOUTH AFRICA, 20-24 APRIL 2015

SOT-8 / Doc. 9.5.1  
(01.04.2015)

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ITEM: 9.5.1

Original: ENGLISH

## **XBT DATA FLOW AND TRANSMISSIONS**

*(Submitted by Joaquin A. Trinanes (USA))*

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### **Summary and purpose of the document**

This document provides information on current and potential future requirements related to the XBT data flow and GTS transmissions.

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### **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 recommended actions.

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## - A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

### 9.5.1 XBT data flow and GTS transmissions

9.5.1.1 The Panel reviewed the consistency and integration of the SOOP data flow with the Global Telecommunication System (GTS). Most of the SOOP XBT measurements are transmitted in near-real-time to the GTS, after being quality controlled using automatic procedures that implement XBT real-time QC tests. An additional visual QC is applied on profiles failing some of the tests before submission onto the GTS. The NOAA Atlantic Oceanographic and Meteorological Laboratory (AOML) has been encoding XBT profiles both in FM 63-XI Ext. BATHY and BUFR (using common sequence 3 15 004) formats. They are put in parallel onto the GTS and tracked to ensure transmission success and to assess latency. This dual delivery scheme will continue up until global XBT migration process to BUFR is finished and users have accommodated their decoding processes to the new format.

9.5.1.2 On a semestrial basis, reports providing information on the global XBT deployments are prepared by AOML. They comprise information from near-real-time and delayed mode sources. These reports contain detailed listing of active transects, number and mode of deployments, probe types, location and time, as well as the institutions involved in logistics, deployments, data management and transmission. These reports are posted online in the XBT Science Team web site at <http://www.aoml.noaa.gov/phod/goos/xbtscience/reportsumm.php>. They are also submitted to JCOMM's Ship Coordinator.

9.5.1.3 The Panel reviewed the real-time data transmission systems being used for the collection of SOOP data, including XBT measurements. AOML is currently transitioning from Inmarsat to Iridium for XBT data transmissions. The Panel noted that the move is expected to be completed by the end of FY2015 for the Atlantic HD transects.

9.5.1.4 The Panel recognized the need to further develop metadata standards in order to fulfill XBT community requirements. Within the current operational data distribution scheme through the GTS, this would require to update the BUFR template or create a new sequence that includes the new fields. A valid alternative would imply to use the optional Section 2 of the BUFR message to store those fields and distribute the local descriptor information to the prospective users. AOML has updated the SEAS binary format with new metadata fields, which could be used during the encoding of BUFR bulletins and to embed in the NDC files that are routinely transmitted to NODC.

9.5.1.5 The Panel agreed on the following:

- (i) To maintain and increase the current international collaboration to improve data tracking, and audit current operational quality control processes to detect inconsistencies and errors (**action; SOOPIP members; ongoing**);
- (ii) To encourage the completion and closing of the migration to BUFR. All SOOPIP partners should put the data on the GTS in BUFR format, and terminate the transmission of BATHY reports after ensuring the user community and service providers are prepared (**action; SOOPIP members; asap**);
- (iii) To strengthen the coordination of SOOPIP activities by updating (if needed) the links to online national data and metadata repositories, and hold regular online meetings on data management and transect statistics. Accomplishing this will allow for better integration of SOOP metadata fields within the semestrial reports. The Panel requested the SOOPIP Chair to organize this activity (**action; SOOPIP Chair; SOT-9**);
- (iv) To support the processes to identify new common metadata requirements. The meeting strongly advocates for the inclusion of agreed metadata in the BUFR bulletins. It requested Joaquin Trinanes to coordinate the collection of input to CBS

through the JCOMM Task Team on Table Driven Codes (TT-TDC) (***action; J. Trinanes; asap***).

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Appendix: None