

WORLD METEOROLOGICAL ORGANIZATION

**INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)**

**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. 9.5.3 Rev. 1
(08.04.2015)

ITEM: 9.5.3

Original: ENGLISH

INTERNATIONAL QUALITY CONTROLLED DATABASE (IQUOD)

(Submitted by Rebecca Cowley, CSIRO Australia)

Summary and purpose of the document

This document provides information on the IQuOD (International Quality controlled Database) project. In particular, the session provides information on:

- A review of IQuOD goals.
- The outcomes of the 2nd IQuOD workshop (June, 2014)
- Progress to date.

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.

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

9.5.3 International Quality controlled Ocean Data Base (IQuOD)

9.5.3.1 Rebecca Cowley (Australia) presented an overview and reported on the status of the International Quality controlled Ocean Data Base (IQuOD).

9.5.3.2 The Panel noted the following goals and purpose of IQuOD:

- (i) IQuOD aims to produce, freely distribute and curate the highest quality, most complete and consistent global subsurface ocean temperature (and later, salinity) profile database possible. The IQuOD database will include intelligent metadata and assign an estimated uncertainty to each individual observation. IQuOD is ultimately for use in understanding climate variability and change (the Earth's energy balance, water cycle and sea level). With IQuOD, scientists will be better able to put modern changes in the context of past changes and separate anthropogenic drivers from natural climate modes of variability. IQuOD will also be used to evaluate, constrain, initialize, and assimilate into numerical models to investigate physical mechanisms and causes of past/current changes, and to predict/project future changes.
- (ii) IQuOD version 1.0 is expected to be available in 2016. The database will contain:
 - All available upper ocean temperature data (nominally what is currently available from the WOD).
 - Provision of intelligent meta-data, particularly for XBT measurements. This information will be of great value for the research community in refining XBT-bias corrections.
 - Provision of instrument measurement (random) error on each observation. This information is of particular interest to researchers involved in ocean reanalysis/operational oceanography and state estimation.
 - An internationally agreed and optimal automated quality control system.

9.5.3.3 The Panel also noted the outcome of the second IQuOD workshop, which was held at NOAA, Silver spring, USA, from 4 to 6 June 2015:

- (i) The project's structure and goals were refined and clarified. Meeting goals included a published meeting report, a scientific report on the project and the scientific implementation plan useful for seeking funding and in-kind support. One of the key items for the meeting was to review the automatic QC benchmarking test efforts from the previous year. The manual QC group was given several tasks for the coming year to begin comparison and clarification of manual QC methods. A new task group to investigate file formats, uncertainty estimation methods and flagging methods was formed. Major outcomes from the second IQuOD workshop include:
 - Review of the IQuOD structure, task group memberships and tasks.
 - Inclusion of the formats, uncertainties and data flagging task group led by Simon Good (Met Office, UK).
 - Efforts to clarify the mission statement for IQuOD and focus on user requirements.
 - Clarification of the data types and instrument types that will be tackled initially in the project.
 - Planned publication of the scientific implementation plan, a meeting summary, scientific report and report on the Auto QC comparisons.

9.5.3.4 Finally, under this item, the Panel noted the following progress with regard to the IQuOD project to date.

- (i) Matt Palmer (UK Met Office) has taken over the co-chair role from Rebecca Cowley (CSIRO). Catia Domingues (ACE CRC) remains as the other co-chair;
- (ii) The IQuOD website¹ is now available. The content requires some updating;
- (iii) IQuOD has been recommended as an IODE Steering Group;
- (iv) The Automated QC task group is developing Python code via a Mozilla-sponsored project. The coding is open-sourced²; and
- (v) The 3rd IQuOD workshop is planned for late 2015 or early 2016. The location is dependent upon funding applications.

Appendix: None

¹ www.iquod.org
² <https://github.com/IQuOD>