

WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION (OF UNESCO)

DATA BUOY COOPERATION PANEL

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ITEM: 8.4

FREMANTLE, AUSTRALIA
2-6 OCTOBER 2012

ENGLISH ONLY

**PROGRESS REPORT ON PILOT PROJECT ON WAVE MEASUREMENT EVALUATION AND
TEST FROM MOORED BUOYS**

(Submitted by Val Swail, Co-chair PP-WET Steering Committee)

Summary and purpose of the document

This document provides information on the development and current status of the joint DBCP-ETWCH Pilot Project on wave measurement evaluation and test from moored buoys, and the Pilot Project workplan.

ACTION PROPOSED

The Panel 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.

Appendix: A. PP-WET WORKPLAN

-A- DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

8.4.1 Mr Val Swail (Canada) reported on the development and current status of the joint DBCP¹-ETWCH² Pilot Project on wave measurement evaluation and test from moored buoys (PP-WET). The full report is included as a presentation in the CD-ROM for the DBCP-28 meeting report.

8.4.2 Mr Swail noted that, following the recommendation from DBCP-27, the Pilot Project on Wave Measurements from Drifters (PP-WMD) had been subsumed within the PP-WET pilot project per DBCP Executive Board decision on behalf of the Panel. The first step identified was to evaluate the Scripps GPS wave sensor, in an existing hull if possible, and also in both drogued and undrogued drifting buoys. Initial comparisons of the sensor were carried out off the Scripps pier, and also in the vicinity of the Environment Canada buoy at East Dellwood, off Vancouver Island; preliminary results were presented during the DBCP-28 Scientific and Technical workshop.

8.4.3 Mr. Swail reported that the workshop hosted by the US Alliance for Coastal Technologies in St. Petersburg, Florida, 22-24 February 2011, which sought to integrate US wave evaluation activities with the Pilot Project, had developed Test and Evaluation Protocols for Wave Measurement Systems in support of the National Operation Wave Observing Plan, (www.act-us.info/Download/Workshops/2012/USFUM_Wave_Measurement/). Mr Swail also noted that a special session on wave measurement (Session E) was held as part of the 12th International Workshop on Wave Hindcasting and Forecasting (November 2011, Kona, Hawaii) to present preliminary results to the scientific community and further develop guidelines and participation in the Pilot Project (<http://www.waveworkshop.org>). A Pilot Project side meeting was also held for Steering Committee members attending the workshop as well as any other interested people, to review progress and future plans.

8.4.4 The Panel expressed its appreciation to several national agencies (Canada, US, Korea, India, Norway, United Kingdom) and international programmes for their participation in the intercomparison projects. In particular, the Panel welcomed the continued contribution from Canada in providing financial support for the Coastal Data Information Program (CDIP) at the Scripps Institution of Oceanography, in setting up the intercomparison methodology, web site and metadata criteria, and in carrying out individual intercomparisons. The Panel encouraged its member countries to participate in the intercomparison activities that were led by this pilot project, and also encouraged WMO-IOC Regional Marine Instrument Centres (RMIC) who have wave measurement responsibilities to take a more active role in the project. (**recommendation**).

8.4.5 The Panel noted that evaluation results continue to be routinely added to the intercomparison web site <http://www.jcomm.info/wet> in near real time, if **spectral** data are routinely transmitted via satellite; if data must be retrieved from logging systems on the platforms, the analysis may be delayed by a year or more. Additional intercomparisons will be added to the web site once the information has been retrieved from the data storage systems on the buoys.

8.4.6 The Panel recognized that the pilot project would contribute to JCOMM in developing standards and best practice, as well as to the relevant WIGOS exercise, and encouraged the co-chairs and SC members to actively outreach these relevant activities with the progress in the intercomparison exercise (**recommendation**).

8.4.7 The Panel agreed that this pilot project was progressing well, and decided to retain the project in its current form for another year, with no additional financial support. The revised work plan for the project is given in Appendix A and is available at the pilot project website. The Panel thanked the PP-WET SC co-chairs, Mr Val Swail and Dr. Robert Jensen, and SC members for their work to make progress.

¹ DBCP: Data Buoy Cooperation Panel

² ETWCH:JCOMM Expert Team on Waves and Coastal Hazard Forecast Systems

8.4.8 The meeting made the following recommendations:

- (i.) Continue the Pilot Project for the next year, with no funding support;
- (ii.) Encourage the co-chairs and SC members to contribute the results of the intercomparison exercise to JCOMM and WIGOS in developing standards and best practice;
- (iii.) Encourage its member countries, and RMICs with marine responsibilities, to participate in the Pilot Project intercomparison activities;

8.4.9 The meeting decided on the following action items:

- (i.) The membership of the Pilot Project Steering Committee will be reviewed in late 2012, and plans will be discussed for a possible follow up technical workshop on results to date (**action; PP-WET co-chairs, Secretariat; ASAP**)
- (ii.) Guidelines on the best practices for measurement of reliable, high-quality spectral wave measurements, including directional spectra, will be developed, possibly as an outcome of the technical workshop (**action; PP-WET co-chairs; DBCP-29**).

Appendix: 1

APPENDIX A

WORKPLAN (OCTOBER 2012 TO SEPTEMBER 2013) OF THE PILOT PROJECT ON WAVE MEASUREMENT EVALUATION AND TEST FROM MOORED BUOYS (PP-WET)

1. Coordinate intercomparisons of wave measurements from different platforms, on an opportunistic basis;
 2. Publish intercomparison results and updated status reports on Pilot Project web site;
 3. Develop a plan for a continuous testing and evaluation program;
 4. Promote widely the pilot project goals and objectives, and results, to encourage enhanced participation and additional partners, including investigation of an alternative testing site on an ocean platform, and greater involvement of Regional Marine Instrumentation Centres (RMIC);
 5. Contribute to training material to educate users about how to deploy and operate wave sensors appropriately;
 6. Contribute, as appropriate, to the JCOMM Standards and Best Practice Guides, including a recommended approach to making reliable, high-quality spectral wave measurements, including directional spectra;
 7. Decide whether to continue the pilot project for a further year and investigate follow-on mechanisms;
 8. Present results to DBCP-29 and other scientific fora.
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