WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

DATA BUOY COOPERATION PANEL

DBCP-29/ Doc 6.4
(13-Sep-13)

TWENTY-NINTH SESSION

ITEM: 6.4

PARIS, FRANCE
23-28 OCTOBER 2013

ENGLISH ONLY

REPORT BY THE TASK TEAM ON CAPACITY-BUILDING (TT-CB)

(Submitted by Sid Thurston, TT-CB Chair, USA)

Summary and purpose of the document

This document contains the report by the chairperson of the Data Buoy Cooperation Panel (DBCP) Task Team on Capacity Building (TT-CB), and provides details on the outcome of DBCP Capacity Building activities during the last intersessional period, including: 1) The DBCP "Regional Workshop on Best Practices for Instruments and Methods of Ocean Observation" (Asia-1) Chennai, India 19-21 November 2012, 2) Outcomes of the Fourth in-region Capacity Building Workshop for Countries of the Western Indian Ocean Region (WIO-4), Zanzibar, Tanzania, 29 April – 3 May 2013, 3) Preparations underway for the "Second North Pacific Ocean and Marginal Seas" (NPOMS-2) Capacity Building Workshop in Hangzhou, China 22-24 October 2013.

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.

Appendices:
A. Report by the Task Team on PANGEA Capacity Building Activities for 2013,
B. Terms of Reference of the DBCP Task Team on Capacity Building,
C. Goals for Third in Region "North Pacific Ocean and Marginal Seas" (NPOMS-3) Typhoon Capacity Building Workshop, Okinawa, Japan October 2014 (TBC).

-A- DRAFT TEXT FOR INCLUSION IN THE FINAL

6.4.1 Sid Thurston, Chairperson of the Task Team on Capacity Building reported on the progress during the intersessional period. In particular, he provided comprehensive information on: 1) The outcomes of the Fourth “In-region Capacity Building Workshop for Countries of the Western Indian Ocean Region” (WIO-4), Zanzibar, Tanzania; 29 April – 3 May 2013, 2) Preparations underway for the Second Capacity Building Workshop for the “North Pacific Ocean and Marginal Seas” (NPOMS-2), Hangzhou China 22-24 October 2013 and 3) Key results of the “Regional Workshop on Best Practices for Instruments and Methods of Ocean Observation” (Asia-1), Chennai India 19-21 November 2012. (See Appendix A).

6.4.2 After discussion, the Panel agreed with the following action items:

- To convene the Third "DBCP In-Region North Pacific Ocean and Marginal Seas Capacity Building Workshop" (NPOMS-3), October 2014, Okinawa, Japan (TBC). The goals for the workshop are detailed in Appendix C (*action; TT-CB; Autumn 2014*);

- To continue to build Observation Development Team (ODT) and Modelling Development Team (MDT) with Met/Ocean Institutes around the world (*action; TT-CB; continuous)*;

- To Assemble a Team to explore recent advances in Information and Communication Technology (ICT) to help facilitate more effective DBCP TT-CB Outreach and Capacity Building Activities on a larger scale (*action; TT-CB; NPOMS-2*);

- To Enhance Coordination and Cooperation between TT-CB and WMO Regional Associations (*action; TT-CB; DBCP-29*);

- To endorse and provide coordination support, through TT-CB, in 2014 for the organization of either; 1) the DBCP’s “Fifth In-Region Capacity Building Workshop for the Western Indian Ocean” (WIO-5) or 2) the “First Pacific Islands Workshop on Ocean Observations and Data Applications” (PI-1). The South West Pacific Region is fertile ground for capacity building, particularly in ocean issues. The Region has good networks and there is a lot of interest in building the human capacity to digest and understand data from the ocean and climate observing systems. (*action; TT-CB; DBCP-29*);

- To emphasize that the regional activities should create synergies and avoid duplication, at all cost, therefore requested to develop specialize activities that meet the interest of the respective regions, preferably with the identified resources within the regions. To ensure this and for smooth coordination among regional activities, the Panel decided to invite the leaders of the regional workshop organization would become members of the TT-CB. (*action; TT-CB; continuous*).

Appendices: 3

APPENDIX A

A REPORT BY THE TASK TEAM ON PANGEA CAPACITY BUILDING ACTIVITIES FOR 2013

Partnerships for New GEOSS Applications (PANGEA)

During November 4-11 2009, the Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) Third Session held in Marrakesh Morocco endorsed the Partnership for New GEOSS Applications (PANGEA) concept. PANGEA provides for in-country practical applications training of ocean data to large and diverse groups of regional participants and fostering partnerships between developed and developing countries to realize the socio-economic benefits of ocean observing systems. Since the inception of PANGEA, a series of workshops has been convened by the DBCP as part of their contribution to the PANGEA concept:

1st Western Indian Ocean Capacity Building Workshop
2nd Western Indian Ocean Capacity Building Workshop
3rd Western Indian Ocean Capacity Building Workshop
1st In-Region Capacity Building Workshop for the North Pacific Ocean and Marginal Seas
4th Western Indian Ocean Capacity Building Workshop
1st In-Region Capacity Building Workshop for Asian Countries

In-Region Western Indian Ocean, East Africa

As contributions to the PANGEA concept, the First DBCP In-Region Western Indian Ocean Capacity Building Workshop (WIO-1) was kindly hosted by the South African Weather Service (SAWS) in Cape Town in April 2010. Presentations from the first workshop can be found on DBCP WIO-1. The DBCP continued its Western Indian Ocean PANGEA Capacity building activities with the Second training Workshop (WIO-2), hosted by the Mauritius Oceanography Institute in May 2011 and the Third Workshop (WIO-3) hosted by the Kenyan Meteorological Department in April 2012.

The Fourth and most recent Western Indian Ocean Capacity Building Workshop (WIO-4), *"Implementation and Operation of Indian Ocean Data Buoy Networks and their Socio-Economic Applications for Enhancing Regional Predictive Capability*", was generously co-hosted by the Tanzania Meteorological Agency, Dr. Agnes Kijazi, WMO Permanent Representative, and Tanzania Institute for Marine Sciences (IMS), Dr. Desiderius CP Masalu Director, with forty-six participants in Zanzibar Tanzania 29 April – 3 May 2013. The outstanding Chair of the Local Organizing Committee was Dr. Yohanna Shaghude of IMS. The Keynote Address was delivered by Mr. Rashid Seif Suleiman Honorable Minister of Infrastructure and Communication in Zanzibar. DBCP Chair Al Wallace, JCOMM Co-President Johan Stander, JCOMM Observations Vice Chair David Meldrum and other dignitaries provided warm welcoming greetings.

The DBCP Capacity Building Task Team gratefully acknowledges the additional participating organizations for their significant contributions to WIO-4: Perth Regional Program Office of the IOC, Australia Bureau of Meteorology Blue Link Project, India National Center for Ocean Information Services (INCOIS), South African Weather Service (SAWS), South African Bayworld Centre for Research and Education (BCRE), Aguhlas and Somali Current Large Marine Ecosystems Project (ASCLME), Scripps Institution of Oceanography (SIO), NOAA's Office of Climate Observation (OCO), Climate Prediction Center (CPC), Climate Program Office (CPO) and National Data Buoy Center (NDBC), ASL Environmental Services, China First Institute of Oceanography (FIO), South African Department of Environmental Affairs, Office of Naval Research (ONR). Kenya Meteorological Department (KMD). Dr. Gary Brassington of Australia's BoM produced a Video that captures the essence of WIO-4 Capacity Building.

The following World Meteorological Organization (WMO) Regional Association I, II National Meteorological and Hydrological Services (NMHS) and Intergovernmental Oceanographic Commission (IOC) Institutes were Represented at WIO-4:

1. Angola
2. Democratic Republic of the Congo
3. Egypt
4. Ethiopia
5. Kenya
6. Morocco
7. Mozambique
8. South Africa
9. Sri Lanka
10. Sudan
11. United Republic of Tanzania
12. Togo

The overall goal of WIO-4 was to continue to build practical observation, modelling and application capacity for the Region. The Goals of the Workshop were successfully achieved including building capacity within Regional Institutes to apply new Indian Ocean Observing System (IndOOS) Data, such as from The *Research Moored Array for African–Asian–Australian Monsoon Analysis and Prediction* (RAMA) and others, for enhanced predictive Capability for the Region. Five Principal Recommendations and Actions emerged from the Workshop:

1. Establish a Western Indian Ocean Science Alliance to be organized by the Agulhas-Somali Current Large Marine Ecosystem (ASCLME),
2. Glider technology was implemented in a pilot project to acquire real-time weather and ocean observations within this data sparse area. Real-time data can be obtained on National Data Buoy Center,
3. Recognizing the importance of links between remote sensing and in-situ observations, the ASCLME Project and the Mauritius Oceanography Institute (MOI) will pursue a collaborative agreement building on the proposed AMESD follow-on projects,
4. Recognizing the fact that Regional members indicated willingness to become part of the International Drifter Buoys Deployment community, NOAA's Global Drifter Program (GDP), working closely with Scripps Institution of Oceanography made arrangements with Mauritius Oceanography Institute and Meteorological Service to provide approximately 20 drifters for annual Regional deployments on local Research Vessels,
5. Representatives of Regional Met/Ocean Institutes put forward a Resolution at WIO-1 to enhance ocean observations off the East coast of Africa to include five (5) Ocean Moored Buoys. This resolution carried forward in Zanzibar. Scientific justification for these additional in-situ observations off the East coast of Africa includes a better understanding of the Somali Jet, upwelling and other important met/ocean phenomena of the Region. Resourcing continues to be pursued to support this initiative.

South Asia

The DBCP contributed to one additional intersessional Capacity Building Workshop for South Asia. The "Regional Workshop on Best Practices for Instruments and Methods of Ocean Observation" (Asia1) was held in Chennai India 19-21 November 2012. This was successfully organized by the India National Institute of Ocean Technology (NIOT), with partial contribution from the Panel's Trust Fund and Regional Organizations. The regional workshop on best practices for instruments and methods of ocean observation, successfully achieved its objectives to build capacity for Asian developi ng countries. The Workshop was primarily designed for scientists, researchers, engineers and manag ers of Asian countries to receive information on current best of practices regarding calibration and testing instruments for ocean observation systems. It is anticipated that the Second Workshop (Asia-2) will be held in 2015.

Al Wallace, Chair, DBCP and Etienne Charpentier, WMO participated and conducted this workshop. This Workshop was inaugurated by Shri Anantha Narayanan, Director, Naval Physical Oceanographic Laboratory, Kochi, on 19th November 2012. Training Manual with compilation of information submitted by Industry with delegates was released by Shri Anantha Narayanan, NPOL and received by Al Wallace, DBCP and Etienne Charpentier, WMO. Nearly 120 delegates including Government representatives from Asian Countries and Kenya, DBCP, Bay of Bengal Programme Intergovernmental Organization (BOBP IGO), BoB Large Marine Ecosystem (BOBLME), NIOT and Industry participants participated in this Regional Workshop. The Ocean observations programme of NIOT is entering its 16th year of uninterrupted and unstinted work and to commemorate this, a booklet tiled *Footprints* was released by Etienne Charpentier and received by Al Wallace, Chairman, DBCP.

Indian Ocean

As additional PANGEA contributions to the Indian Ocean Observing System (IndOOS) and RAMA implementation with Japan, China and other Regional Partners, the United States National Oceanic and Atmospheric Administration (NOAA) Office of Climate Observation has been working with India and Indonesia to implement the Central/Eastern IndOOS for the past six years. Now the agency is also working with the Agulhas-Somali Current Large Marine Ecosystem (ASCLME) Project to implement the Western Indian Ocean RAMA Array. NOAA's partners contribute ship time while NOAA provides instruments and moorings. NOAA also contributes other benefits to its partners under "Resource Sharing" PANGEA agreements which include instrumentation, mooring hardware, capacity building workshops, training and education opportunities.

The Chair invites all readers of this annual report to consider joining the DBCP Capacity Building Task Team to advance PANGEA programs of mutual interest.

APPENDIX C

TERMS OF REFERENCE FOR THE DBCP TASK TEAM ON CAPACITY-BUILDING
(As adopted at DBCP-XXIV)

The DBCP Task Team on Capacity-Building shall:

1. Initiate, plan and coordinate the implementation of the Training and Capacity-Building work programme including, in particular, the regular Training Course on Buoy Programme Implementation and Data Management;

2. Keep under review existing training material (paper and electronic) and advise on updating as well as for the development of new material;

3. Review and assess national, regional, and global requirements for capacity-building and develop / improve programmes as appropriate;

4. Liaise with other capacity-building programmes in relevant areas to develop and implement integrated activities, to explore potential synergies and opportunities for efficiently using resources available; liaise in particular with the JCOMM cross-cutting Team on Capacity-Building;

5. Endeavour to mobilize the resources required for DBCP capacity-building, including those needed for the implementation of the Training Courses;

6. Make recommendations to the DBCP Executive Board and / or the DBCP for addressing the issues above; and

7. Report to the DBCP Executive Board and the DBCP at its Annual Sessions.

Membership:

The membership is open to all Panel members. The Chairperson[1], appointed by the Panel, has selected the following team members:

Dr Sidney THURSTON, NOAA/OCO (TT-CB Chairperson)	Dr. R. Venkatesan, NIOT/India (TT-CB Vice-Chairperson)
DBCP Executive Board members, including DBCP Chairperson, Vice-chairpersons (or their respective Deputies)	DBCP Technical Coordinator
Hamad Mohammed AL GHEILANI (Oman)	Mathieu BELBEOCH (JCOMMOPS)
Rick LUMPKIN (USA)	Walter FLORES SERVAT (Peru)
Djoko HARTOYO (Indonesia)	Dr G. LATHA (India)
Byung-Gul LEE (Republic of Korea)	Kwan-Chang LIM (Republic of Korea)
Rick LUMPKIN (USA)	John MUNGAI (Kenya)
David MELDRUM (UK)	Lucy SCOTT (South Africa)
Louise WICKS (Australia)	Jean ROLLAND (France)
Representative of the IOC Secretariat	Representative of the WMO Secretariat
Juliet HERMES (South Africa)	Santjie du TOIT (South Africa)

1 The Chair and Co-Chair of the Task Team should not be in a situation of conflict of interest.

GOALS OF THE THIRD CAPACITY BUILDING WORKSHOP OF THE WMO/IOC DATA BUOY COOPERATION PANEL (DBCP) FOR THE NORTH PACIFIC OCEAN AND ITS MARGINAL SEAS (NPOMS-3)

APPLICATION OF REGIONAL OCEAN OBSERVATIONS FOR INCREASING SOCIETY'S UNDERSTANDING AND FORECASTING OF TYPHOONS

OCTOBER 2014

OKINAWA, JAPAN (TBC)

The Following Goals reflect the needs of this NPOMS-3 Workshop and of the long-term Ocean-Climate Monitoring Capacity for Regional Cyclogenesis and Forecasting:

- Review recent, on-going and planned regional programs on typhoon and its interaction with the ocean,
- Discuss new advances in our understanding of the processes and mechanisms of typhoon-ocean interaction,
- Explore the possibility of regional collaboration to improve typhoon observation and prediction,
- Demonstrate the crucial role of Western Pacific (WESTPAC) ocean observations, such as for understanding and predicting regional cyclogenesis,
- Build Regional and National Human, Institutional and Infrastructure Capacity Needed to Acquire, Process and Deliver Socio-Economic Benefits From Ocean Observations,
- Continue to Learn Practical Implementation Skills for the Deployment of Operational Data Buoys at Sea, the Collection of Buoy Data, and Related Data Management,
- Continue to Align with Objectives of the Global Framework for Climate Services (GFCS) to Deliver Ocean Data to the End-User,
- Enhance Coordination and Cooperation between the DBCP Task Team for Capacity Building (TT-CB), WMO Regional Associations (RA-II/V) and the IOC Regional Office for WESTPAC.

_____