

ESCAP/WMO Typhoon Committee

8th IWS/2ndTRCG Forum on the main theme “Forecasting, Warning and DRR Strategies in the Mitigation of Tropical Cyclone Impact in a Multi-hazard Environment”

**2 – 6 December 2013
(Macao Science Center, Macao, China)**

INTRODUCTION

Following decision of the 45th Typhoon Committee Session, it was held the 8th Integrated Workshop (IWS) together with the 2nd TRCG Forum, with the title “Forecasting, Warning and DRR Strategies in the Mitigation of Tropical Cyclone Impact in a Multi-hazard Environment”.

The meeting was attended by 102 participants including the representatives from 13 of 14 Members of the Typhoon Committee (Cambodia; China; DPR Korea; Hong Kong, China; Japan; Lao PDR; Macao, China; Malaysia; Philippines; Republic of Korea; Thailand; the United States of America and the Socialist Republic of Viet Nam); Observers (Asian Disaster Reduction Center and Tohoku University); invited lecturers; International Organizations (ESCAP and WMO); TCS staff and LOC. The participants from the Members were mainly Chairs, Vice-Chairs and Focal Points of WGM, WGH, WGDRR and TRCG. (Annex I – List of Participants).

The Secretary of the Panel on Tropical Cyclones, Mr. Arif Mahmood, was invited to participate, supported by ESCAP, but last minute difficulties prevented him to participate.

DAY 1: MONDAY, 02 DECEMBER 2013

Plenary

Opening Ceremony

The opening ceremony was held in the Macao Science Center, at 09:00 of 02 December 2013, with introductory remarks by Mr. Olavo Rasquinho, TC Secretary, followed by opening addresses of Mr. Edwin Lai, Chair of Advisory Working Group (AWG) and Training and Research Coordination Group (TRCG), Dr. Sangheon Lee, representative of the Ministry of Land and Infrastructure and Transport of Republic of Korea, Mr. Alf Ivar Blikberg, representative of ESCAP and Mr. Koji Kuroiwa, Chief of Tropical Cyclone Programme of WMO. The welcome address was given by Dr. Fong Soi Kun, Director of Macao Meteorological and Geophysical Bureau (SMG).

Keynote Sessions

The keynote sessions were divided in two parts, Keynote Session 1, immediately after the opening ceremony, and Keynote Session 2, after lunch, and retaken in the afternoon of day 2, due to restrictions on the use of the plenary room during the morning.

Keynote Session 1

The keynote lectures were addressed in accordance with the Programme (Annex II).

1. Bridging the Gap between Tropical Cyclone Research and Operation -Johnny Chan (School of Energy and Environment, City University of Hong Kong)
2. Ensemble Tropical Cyclone Activity Prediction using TIGGE Data - Munehiko Yamaguchi (ECMWF / JMA, Japan)
3. Recent Developments of JMA Operational NWP Systems and WGNE Intercomparison of Tropical Cyclone Track Forecast – Chiashi Muroi (JMA, Japan)
4. Extratropical Transition: Modern Forecasting and Communication Technique - Chris Fogarty (Canadian Hurricane Centre, Canada)
5. Extratropical Transition of Tropical Cyclones in the Western North Pacific Basin - Naoko Kitabatake (JMA, Japan)
6. Satellite-based Analyses in Tropical Cyclone Forecasting - Roger Edson (NWS, Guam, USA)

Keynote Session 2

7. New Development on PMP Estimation in China - Bingzhang Lin (NUIST, China)
8. Flood Forecasting and Warning Systems - Yoshiharu Matsumoto (CTI Engineering, Japan)
9. The Practical Use of Flood Information for Flood Damage Mitigation Ji-Youn Sung (HRFCO, Republic of Korea)
10. Storm Surge Disasters by Typhoons and Information for Disaster Risk Reduction - Nadao Kohno (JMA, Japan)
11. Practical Simulation of Tropical Cyclone Impacts for Forecasting, Emergency Planning and Disaster Risk Reduction- Bruce Harper (GHD Pty Ltd, Australia)

12. Socio-economic Impact of Tropical Cyclones making Landfall on the Korean Peninsula - Baek-Jo Kim (KMA, Republic of Korea)
13. Human Centric Disaster Management by a Multi-layer and Crowd Sourced GIS Mapping – Shim Jae Hyun (NDMI, Korea)
14. Tropical Cyclone Losses and Climate Change - John McAneney (Risk, Frontiers, Macquarie University, Australia)
15. Tropical Cyclone and Climate Change – Tom Knutson (NOAA, USA)

Each lecture was followed by approximately 5 minutes of questions and answers, which were retaken after the last lecture, at the end the first day.

DAY 2: TUESDAY, 03 DECEMBER 2013

Morning

Parallel Meetings of the three working groups (WGM, WGH, and WGDRR)- Part 1

Due to restrictions on the use of the plenary room, the first part of the parallel meetings of WGM, WGH and WGDRR have taken place on the morning of the second day, interrupting the sequence of the keynote lectures, which were retaken after lunch.

This first part consisted of the presentation of the Members' Reports, which were made separately in each parallel meeting. This procedure was adopted in the sequence of a recommendation of the AWG meeting that was held in Seoul, on 28-29 May 2012, so that the TC Annual Sessions can be shortened.

The second part of the parallel meetings (for reviewing AOPs 2013 and propose AOPs 2014) has taken place on Day 4 (Thursday, 5 December)

Afternoon

Plenary

Keynote Session 2 (continuation from afternoon of Day 1)

Presentations and Discussion on New Project EXOTICA and Projects in Progress

1. Project Experiment on Typhoon Intensity Change in Coastal Area (EXOTICA)

The Chair of WGM, Mr. Xiaotu Lei, introduced the new project **Experiment on Typhoon Intensity Change in Coastal Area** (EXOTICA), previously called Typhoon Experiment on Structure and Intensity Changes in the Coastal Area (TEXSICA).

The frequent occurrence not only of abnormal intensity change of typhoon in coastal areas and landfalling in TC region, but also the difficulties on operational typhoon intensity forecasting were among the main motivations for this project. A proposal of this project is being prepared to submit to TC46 Session for discussion and eventual approval.

2. Synergized Standard Operating Procedures for Coastal Multi-Hazards Early Warning System (SSOP)

Mr. James Weyman, Project Manager/Technical Advisor of the project “Synergized Standard Operating Procedures for Coastal Multi-Hazards Early Warning System” (SSOP), gave a presentation on its progress, in which he summarized the main steps already given, particularly the recent visits of a team composed by experts from ABU, ADPC, PTC and TC, to Bangladesh, Pakistan and the Philippines. He considered this project as an excellent opportunity for cooperation between the two regional bodies of the WMO Tropical Cyclone Programme, the Typhoon Committee and the Panel on Tropical Cyclones.

3. Urban Flood Risk Management (UFRM)

Mr. Jinping Liu, hydrologist of the Typhoon Committee Secretariat, gave a presentation on the cross-cutting project “Urban Flood Risk Management (UFRM)”, the first cross-cutting project of TC. It was led by China and guided by Task Force of TC, involving the Key Results Areas 1, 2, 4 and 5 of the TC Strategic Plan. It was implemented during the period 2008-2012.

The publication related to this project, “Guidelines on Urban Flood Risk Management” was distributed by the participants.

4. Severe Weather Forecast Demonstration Project (SWFDP) in SE Asia - Peter Chen (WMO)

Mr Peter Chen (Chief, Data-Processing and Forecasting Systems-Weather and DRR Services Department of WMO) addressed a presentation on the progress of the “Severe Weather Forecast Demonstration Project (SWFDP) in SE Asia”.

During this presentation it was recalled a statement expressed at the 2007 and 2011 WMO Congresses - *“NMHSs in developing countries are able to implement and maintain reliable and effective routine forecasting and severe weather warning programmes through enhanced use of NWP products and delivery of timely and authoritative forecasts and early warnings, thereby contributing to reducing the risk of disasters from natural hazards.”*

Special Discussion Topic – Typhoon Haiyan

Presentations on typhoon Haiyan and measures taken were addressed by representatives of the Philippines and Viet Nam.

Mr. Koji Kuroiwa made a presentation about the emergency response from WMO to the request from the NHMS of Viet Nam regarding the approach of the typhoon Haiyan, followed by discussion on actions taken by WMO Secretariat. The agencies/institutions that participated in the technical assistance to Viet Nam were invited to address the participants on the actions that were taken. Representatives of China; Japan and Hong Kong, China briefly provided information on their assistance to Viet Nam.

Mr. Peter Chan, from WMO, raised some comments, focused on the DRR programme of WMO, stressing that the Haiyan case showed that the WMO members can help each other, and that the role of the WMO Secretariat is not to give direct operational support to the members in emergency situations. It is more directed to establishing technical regulations to help the members to proceed to their operational activities. He suggested that the members should ask themselves what can be done in situations like this, in future.

It was also advised that the public should be informed, before the typhoon hits, on what could be the effects of the storm, using for that purpose very clear language and even pictures of the damages caused by the storm during its track, in other areas. For example, pictures on the damages caused by Haiyan in Guam and Micronesia could be shown on TV to the public of the Philippines.

Some questions were raised, such as (1) Was this case, or not, a successful case of emergency response? (2) What is the most effective way to assist? (3) Responses like this can provide excess of information that cannot be easily assimilated in an emergency situation.

There was a certain consensus that this was a case that gave great visibility to the WMO and the NMHSs involved, mainly due to press conferences, press releases and interviews to the media.

The representative of Viet Nam thanked the Members of Typhoon Committee, WMO, JMA (RSMC-Typhoon Center-Tokyo), CMA, Hong Kong Observatory, NWS and TCS, for their support during the emergency response.

Lessons learned: (1) WMO Secretariat needs to develop Standard Operating Procedures (SOPs) focusing in emergency situations; (2) Updated network of contacts is needed.

Future actions: (1) WMO will contact members on the necessity of drafting SOPs for emergency situations; (2) Next TC Session will be consulted on this regard.

Welcome Dinner

A welcome dinner was offered by the Macao Meteorological and Geophysical Service (SMG) on the evening of day 2 (03 December 2013). As usual this event was an excellent opportunity for participants to better to know each other and socialize.

DAY 3: WEDNESDAY, 04 DECEMBER 2013

Morning:

2nd TRCG Panel Discussion

Discussion on issues to follow up for TRCG has taken place on day 3.

The participants were distributed into six groups. To each group was assigned a group leader and a rapporteur for writing down the conclusions regarding the different topics for discussion, in short bullet formation, such as (1) Training needs; (2) Research needs; (3) Resource needs; (4) Collaboration opportunities:

Main Hall 1- Interpretation and use of available NWP including products from ensemble and consensus model (led by Munehiko Yamaguchi).

Main Hall 2- Development of forecast products sharing of best practices for effective communication of forecast products and warning messages (Led by Chris Fogarty).

WGM room – Storm surge early warning for risk assessment and emergency response (led by Bruce Harper).

WGH room – Inundation assessment in coastal region under the combined risks of heavy rain, river flooding, waves and tides and storm surge including new approaches in satellite analysis techniques for real time monitoring of rainfall, flooding and waves (led by Lin Bingzhang/ Minoro Kamoto).

WGDRR room – Disaster management and impact assessment systems including realistic disaster scenarios based in historic plausible events (led by Shim Jae-hyun).

TRCG room – Establishment of mechanisms for building up homogeneous data sets for assessment of long term trends related to tropical cyclones patterns and activity (Tom Knutson)

The findings of the discussions were delivered to the Chair of TRCG for further treatment and consolidation.

Afternoon

Technical tour: visit to SMG and, some participants, to TCS.

DAY 4: THURSDAY, 05 DECEMBER 2013

Parallel Meetings of the three working groups (WGM, WGH, and WGDRR)-Part 2

Due to logistical problems, the Part 2 of the parallel meetings has not taken place in the sequence of Part 1, on Day 2.

AOP 2013 Review and AOP 2014 planning, including Budget and New Priority Projects

(Moderators: Respective Chairs of the three Working Groups and TRCG)

The WGs reviewed separately the status of the Annual Operating Plan-2013 (AOP-2013) and programmed the activities for 2014. The AOPs-2014 were drafted with the respective proposed allocations. The TRCG also met and discussed the past activities and the ones for the new four-year period.

Reports from the 3 WGs and panel discussions

Following the parallel workshops the chairs of the WGs prepared the respective reports with conclusions and recommendations. The contents of these reports will be reviewed by the respective WGs to be submitted to the 46th TC Session, in Bangkok, Thailand, on 10-13 February 2014.

DAY 5: FRIDAY, 06 DECEMBER 2013

Plenary

The plenary was chaired by Edwin Lai, Chair of TRCG and AWG.

Before the presentation of the reports of the WGs, Dr. Yuichi Ono (Professor of the International Research Institute of Disaster Science - IRIDeS, Tohoku University) made a presentation stressing the importance of two conferences to be organized by UNISDR, in 2014 and 2015.

Presentation on UNISDR Conferences in 2014 and 2015

Dr. Yuichi Ono emphasized the importance of two UNISDR conferences:

- Sixth Asian Ministerial Conference on Disaster Risk Reduction - Bangkok, Thailand, 22-26 June, 2014;
- Third UN World Conference on Disaster Risk Reduction - Sendai, Japan, 14-18 March, 2015.

In his presentation he called the attention that it has been proposed to have one indicator in the negotiation process (UN High-level Panel), a numerical target to reduce the number of disaster deaths, similarly to the Strategic Goal 1 of the Key Results Area 1 of the Typhoon Committee Strategic Plan 2012-2016 - To enhance cooperation

among TC Members to reduce the number of deaths by typhoon-related disasters by half in the ten years of 2006 – 2015 (using the ten years of –1990-1999 as the base line). Dr Ono suggested that the committee should pay special attention to these conferences.

Reports of the Chairs of the WGM, WGH and WGDRR

The Chairs of the WGM, WGH and WGDRR presented the reports of the parallel meetings. The status of the AOPs 2013 was presented and also the AOPs - 2014 with the respective proposals for allocations in TCTF budget for 2014. As these documents need to be reviewed, the respective final drafts will be submitted to the 46th TC Session as working, which will be posted at the TC Website.

Strategic Plan 2012-2016 Midterm Review

The Secretary of TC submitted for discussion the changes proposed by the Members to the Strategic Plan (draft version 4 November 2013), which were accepted in general, except small details that were updated. The new version (dated 6 December 2013 – Annex III) was resubmitted to the Members, through the TCS Circular Letter TCS/350-2013, dated 12 December 2013, for further comments and suggestions. The Members were requested to reply up to 31 December 2013. After inputting the eventual changes the document will be presented to the TC46 for final adjustments and approval.

Closure of the meeting

It was expressed appreciation for the kind offer from Macao Government, through the Macao Meteorological and Geophysical Bureau (SMG), to hold the IWS, and also for the support from Macao Foundation and the Ministry of Land, Infrastructure and Transport of Republic of Korea (MOLIT).

FINAL NOTE:

Please access in Typhoon Committee Website:

http://www.typhooncommittee.org/8IWS_2TRCG/8IWS_2TRCG.html

ANNEXES:

Annex I – List of Participants

Annex II– Programme

Annex III – Strategic Plan Midterm Review (draft version 6 December 2013)

Annex IV - Summary Report of the AWG meeting on 7 December 2013