

3rd Joint
Session of TC & PTCTCS
ActivitiesMembers
Activities 2015

1st Semester 2015

Newsletter



Group photo of the Participants in the Third Joint Session of the ESCAP/WMO Typhoon Committee (TC) and Panel on Tropical Cyclones (PTC) (TC 47th Session and PTC 42nd Session)

Typhoon Committee and Panel on Tropical Cyclones held THE THIRD JOINT SESSION

The Third Joint Session of the ESCAP/WMO Typhoon Committee (TC) and Panel on Tropical Cyclones (PTC) (TC 47th Session and PTC 42nd Session) was held at the United Nations (UN) Building, Bangkok, Thailand, from 09 to 13 February 2015. It is the first time in 18 years that such a gathering of the two platforms – the PTC and the TC – is held. The first one of those two regional Bodies was held in Pattaya, Thailand in February 1992 and the second one was held in Phuket, Thailand in February 1997.

The Joint Session was attended by 107 participants. They were represented from 12 of 14 Members of the Typhoon Committee, namely: Cambodia; China; Hong Kong, China; Japan; Lao PDR; Macao, China; Malaysia; Philippines; Republic of Korea; Thailand; the United States of America (USA); and the Socialist Republic of Viet Nam; and 5 of 8 Members of Panel on Tropical Cyclones, namely: Maldives, Oman, Pakistan, Sri Lanka, Thailand. 4 observers attended the Session from International Civil Aviation Organization (ICAO),



Tohoku University, International Federation of Red Cross and Red Crescent Societies (IFRC) and Intergovernmental Oceanographic Commission (IOC)/UNESCO. The Representatives of the Economic and Social Commission for Asia and the Pacific (ESCAP), World Meteorological Organization (WMO), the Secretariats of TC and PTC also attended the Session.

The core of the Session is to develop a cooperative mechanism between PTC and TC. The future cooperative mechanism of the PTC and TC to have at least four key features:

1. A joint capacity development programme, taking full advantage of the resources provided by the RSMC, with strong support from ESCAP and WMO.
2. Sharing of information through joint publications, mutual access to databases, technical workshops and so on.
3. Engagement in joint projects, building on the outcomes of the SSOP project.
4. Agreement to hold joint sessions on a periodic basis, such as every 5-6 years.





Participants at 47th Session of TC



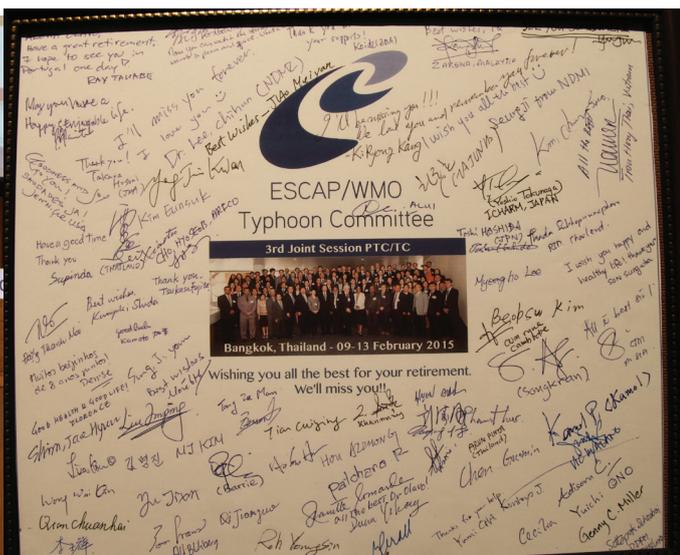
Participants at 42nd Session of PTC

Mr. Olavo Rasquinho Handed Over the Position of Secretary of Typhoon Committee to Mr. Jixin YU

At the 46th Session of the Committee, Mr. Olavo Rasquinho, then Secretary of the Committee, expressed his wish to retire in early 2015 after the TC 47th Session. The Committee, at the third Joint Session of the ESCAP/WMO Typhoon Committee (TC) and Panel on Tropical Cyclones (PTC) (TC 47th Session and PTC 42nd Session) which was held at the United Nations (UN) Building, Bangkok, Thailand, from 09 to 13 February 2015, expressed its highest appreciation to Mr. Olavo RASQUINHO for his excellent work and great contribution in the past 8 years during which he served with the Committee as Secretary on earnestly enhancing the capacity building of Secretariat, effectively executing the decisions of the Committee, wisely

coordinating the activities of working groups, and promoting the visibility of the Committee in the region.





A souvenir with signatures of all participants of 47th Session was delivered to Mr. Olavo Rasquinho by TC Chair Mr. Alui BAHARI.



Mr. YU Jixin giving his speech after the approval of TC Secretary



Mr. Olavo Rasquinho with his staff during the Session



Two Secretaries with all heads of delegations of 47th Session



According to Rules of Procedure of the Committee, rule 10, "In implementing Article 3 of the Statute of the Typhoon Committee, the Typhoon Committee shall review regularly the appointment of the TC Secretary and any issues related to TCS hosting arrangement" and Terms of Reference of the Typhoon Committee, paragraph 14, 'The Committee shall appoint the TC Secretary'. Following the decision of 46th Session, the Committee conducted an open, fair and transparent procedure for nomination and selection of new secretary. Mr. YU Jixin from China Meteorological Administration (CMA), nominated by Macao, China, was selected by majority votes. The final official approval for the new TC Secretary was done at the 47th Session of the Committee.

The Committee Appointed the New Chair and Vice-Chair Persons for WGH

Mr. Minoru KAMOTO, Chief Researcher, Water-related Hazard Research Group of International Center of for Water Hazard and Risk Management (ICHARM) of Japan, was appointed as WGH Chairperson at 43rd Session of the Committee which was held in Jeju, Korea in January 2011. He expressed his willingness to retire from his position after TC 47th Session. The Committee, at the third Joint Session of the ESCAP/WMO Typhoon Committee (TC) and Panel on Tropical Cyclones (PTC) (TC 47th Session and PTC 42nd Session) which was held at the United Nations (UN) Building, Bangkok, Thailand, from 09 to 13 February 2015, accepted his retirement request and expressed its gratitude to Mr. KAMOTO Minoru for his valuable contribution to WGH during his term in past 4 years.

He has been leading various units such as head of Yamatosaka Dam Project of MLIT, Water Resources Planning of MLIT, Planning division of Japan Dam Engineering Center, River Bureau etc. He was serving as Disaster Management Policy Advisor for Indonesian National Disaster management Agency in Indonesia from 2010 to 2014, as well as Team Leader of JICA Flood Control and Sabo Project for Department of Public Works and Highways in the Philippines.



Ms. LI Yan, Deputy Division Director of National River Forecasting Center, Bureau of Hydrology under the Ministry of Water Resource of China, has rich experience on aspects of water resources management and flood information and forecasting. She has been involved in big project on climate change. Dr. Hyo Seob CHO, Director of River Information Center, Han River Flood Control Office under the Ministry of Land, Infrastructure and Transport, Republic of Korea. He is the expert on hydrological monitoring, data collection and water-related disaster risk management, especially flood information, forecasting and control.



Mr. Minoru KAMOTO chairing the WGH parallel session of the 1st TRCG Forum/8th IWS held in Macao, China in 2013

At the 47th Session, the Committee appointed Mr. Yoshio TOKUNAGA, Chief Researcher of Water-related Hazard Research Group of ICHARM of Japan as Chairperson; and to re-appoint Ms. LI Yan, Deputy Division Director, Bureau of Hydrology (BOH) of China, and to appoint Dr. CHO, Hyoseob, the Director of River Information Center of HRFCO of MOLIT, Republic of Korea as Vice Chairpersons of WGH.

Mr. Yoshio TOKUNAGA has rich experience in water hazard and risk management and in the international arena as well.

TC WGH Held Its 4th Working Meeting in Conjunction with the 7th WWF in Korea

Referring to the decision of the third Joint Session of the ESCAP/WMO Typhoon Committee (TC) and Panel on Tropical Cyclones (PTC) (TC 47th Session and PTC 42nd Session) which was held at the United Nations (UN) Building, Bangkok, Thailand, from 09 to 13 February 2015, the Han River Flood



WGH Participants from Typhoon Committee at side-event Session (SE-085): 4th Working Meeting of TC WGH

Control Office (HRFCO), Ministry of Land, Infrastructure and Transport (MOLIT) of Republic of Korea (ROK) hosted the 4th working meeting of TC Working Group on Hydrology (WGH) from 15 to 17 April 2015 in conjunction with the 7th World Water Forum (WWF) in Daegu, ROK with the generous financial support.

Totally 16 participants of hydrological component from TC Members (Japan, Lao PDR, Malaysia, Republic of Korea; Thailand, Vietnam and USA) and hydrologist of TCS attended the proposed sessions and closing ceremony of 7th WWF, including: (1) side-event Session (SE-085): 4th Working Meeting of TC WGH; (2) thematic Session 1.3.3: with session title on Preparedness, Response and Adaptation against Extreme Flood under Climate Change and (3) concluding Session 1.3: with session title on Adapting to change: Monitoring risk and uncertainty for resilience and disaster preparedness.

The World Water Forum is a large-scale international conference that has been held every three years since 1997 in cooperation with the public, private sectors, academia and industries. At this 7th WWF, 168 nations, over 40,000 people gathered in Daegu & Gyeongbuk, Korea, to discuss water challenges. That was the first time to have a session on the WWF in the name of TC WGH. The participants presented the progresses of WGH AOPs and shared the experiences and lesson learned on hydro-meteorology-related disaster risk reduction. The comments from TC hydrological component contributed the WWF and enhanced the visibility of the Committee.

WGH chairperson Mr. Yoshio Tokunaga and vice chairperson Dr. Hyo-seob Cho chaired the side-event session and



WGH Participants from Typhoon Committee at 7th WWF



7th WWF Side-event Session (SE-085): 4th Working Meeting of TC WGH

thematic session, respectively. The Director-general of HRFCO attended WGH working meeting and expressed that Korea government will continue supporting the activities of Typhoon Committee.

10thWGDRR Annual Workshop

The 10th WGDRR Workshop took place in Seoul, Republic of Korea on 19-20 May 2015 with good results. This annual workshop was hosted with the generous financial support by National Disaster Management Institute of the Republic of Korea aiming to provide the opportunity for WGDRR Members to share their experiences and information related to disaster prevention; promote the activities of WGDRR among Members, as well as take follow-up actions on the AOPs of WGDRR this year.

Due to the topic of the workshop this year is “Learning From Past Disasters”, participants shared the experience from past real cases, whether good or bad. This was beneficial for the

participants and members to improve their mechanisms and policies on Disaster Risk Reduction in the future. Meanwhile, DRR members discussed the development of the new WGDRR strategies for implementation of the Sendai Framework. Additionally, participants discussed about the issues of promoting the Activities of WGDRR and shared ideas about new projects next year.

This year, the above-mentioned workshop was attended by 28 participants from the representatives of 6 members including China, Macao (China), Malaysia, Thailand, USA, Vietnam, together with Mr. Kim Gyejo (Director general, Disaster Management Office, MPSS), Mr. Shim Jaehyun (New president of NDMI), Mr. Yu Jixin (New TC secretary), Mr. Yuichi Ono (Tohoku University), TCS staffs, and NDMI experts. In addition, Oman (PTC member) was invited to participate in this workshop.



WGDRR Participants at 10th Annual DRR Meeting in Seoul, Republic of Korea

SSOP Project Terminated with Achievement of Expected Goals and Phase II Is Under Consideration

Given the great complex and difficulties, ESCAP authorized an extension of the project on “Synergized Standard Operating

Procedures (SSOP) for Coastal Multi-Hazards Early Warning System” until 31 May 2015.

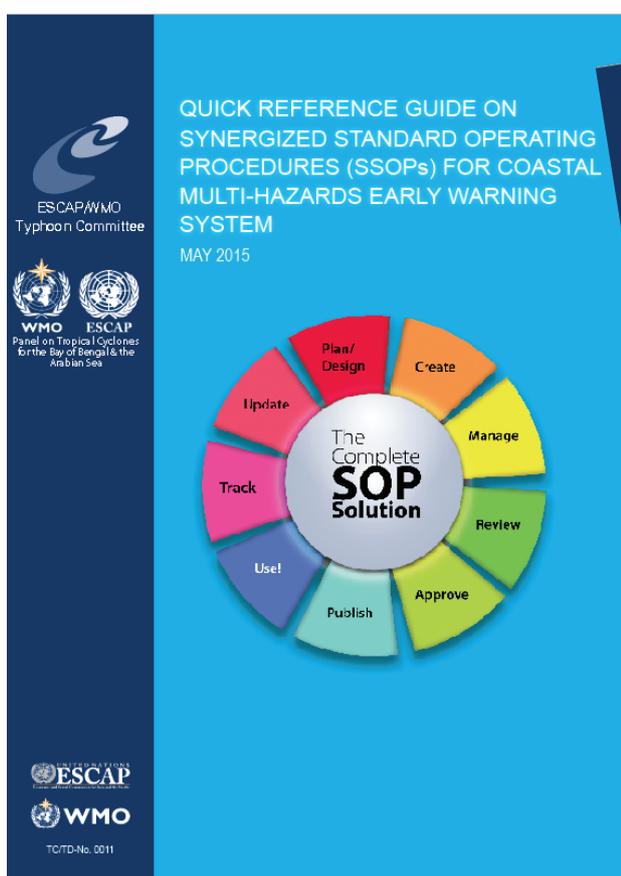
Since the third Joint Session of the ESCAP/WMO Typhoon Committee (TC) and Panel on Tropical Cyclones (PTC) (TC 47th Session and PTC 42nd Session) which was held at the United Nations (UN) Building, Bangkok, Thailand, from 09 to 13 February 2015, the Secretariat of the Committee (TCS), in cooperation with Steering Committee and Project Manager/ Technical Advisor, completed following activities:

i. Publishing the Manual and Quick Reference Guide on Synergized Standard Operating Procedures (SSOP) for Coastal Multi-Hazards Early Warning System. SSOP Manual was sent out for final review. Between 16 March and 15 April 2015, the many comments and recommendations received from reviewers and from the six mission visits were incorporated into the Manual. In addition to the Manual, a Quick Reference Guide was developed based upon the need identified in the mission visits. It contains a summary of the basic ideas and methods for development and implementation of SSOPs. It is an operational guide for an organization to quickly and easily start or review implementation of the SSOP process. It provides ideas on SSOP format, SSOP examples, and a checklist for reviewing SSOPs. For areas where more information is required, different Modules within the SSOP Manual can be reviewed. In the Quick Reference Guide, it was recommended and encouraged to review the entire Manual to gain a better understanding of ways to promote community resilience and to improve the policy and institutional arrangements at all levels of government using integrated, effective SSOPs for multi-hazards EWS. The Project Manager and TCS work together to incorporate the comments from the final review and to prepare and process the documents for publication. The final review of the Quick Reference Guide was completed published in May 2015. Two publications will be distributed to TC and PTC Members. It should be noted that at the 3rd PTC/TC Joint Session, TCS requested that after the Manual and Quick Reference Guide were completed, Members should consider ways to make the best use of the documents and to share and discuss the 2 documents with other organizations and entities related to early warning

systems.

ii. Conducting project evaluation. From April to May 2015, an evaluation was conducted by Mr. Mihir R. Bhatt from the All India Disaster Mitigation Institute. He (1) reviewed of all project documents; (2) reviewed and conducted an assessment of relevant country level and selected sectorial documents (3) interviewed project staff to ascertain effectiveness of the project design, planning and execution; (4) interviewed project-involved stakeholders; (5) conducted field missions to Cambodia and ESCAP; and (6) circulated a survey for those who could not be interviewed in person. He found "Outcome 1 (Integrated, effective standard operating procedures for coastal multi-hazard EWS for TC and PTC Members) and outcome 2 (Improved performance and effectiveness of SSOPs for coastal multi-hazards EWS in Members of TC and PTC through integration, synergization, cooperation, and training) were successfully achieved in most beneficiary countries. For fully achieving both outcomes in the 13 beneficiary countries and applying results of this project in other countries of TC and PTC, a SSOP Phase II would be advisable."

iii. Conducting project auditing. A project Audit was conducted by KPMG. The Audit report will be submitted to ESCAP with Terminal Report of Project. SSOP project has been terminated on the 31 May 2015 with achievement of expected goals. This project has become a very successful example of cooperation between two regional bodies under the umbrella of ESCAP. The SSOP phase II is under considering by ESCAP.



TCS Assists KMA in Its International Internship Programme



Following request from Korea Meteorological Administration (KMA), TCS accepted two interns on-job training in TCS: the first one, Ms. Myung-Jin KIM from September 2014 to February 2015; and the second one, Mr. Ji-Soo HAN from March to June 2015. The TCS meteorologist and hydrologist were appointed as supervisor of the interns, respectively. Two candidates had very good cooperation with TCS staff and successfully achieved their expected objectives.



Official Visit of TC Secretary to the Office of the Commissioner in Macao SAR, China

On April 1, 2015, the new Secretary of ESCAP/WMO Typhoon Committee (TC) Mr. YU Jixin made an official visit to the Office of the Commissioner of the Ministry of Foreign Affairs of the People's Republic of China in the Macao Special Administrative Region (SAR). The Deputy Commissioner Mr. PAN Yundong met with Mr. YU Jixin.

Mr. YU Jixin made a brief introduction on TC and its Secretariat, and expressed his appreciation to the central government of

China and the government of Macao SAR for their generous support in the past years after TC's Secretariat was moved to Macao in early 2007. Mr. YU also emphasized the importance of the continuing support from the office of the Commissioner to TC Secretariat.

Mr. PAN Yundong expressed his warmest congratulation to Mr. YU for taking office and welcome him for his visit to the Commissioner's Office. He pointed out that the work of TC is very important as the first international intergovernmental organization settled in Macao for promoting Macao's foreign relations and making a positive contribution on promotion of the development of disaster prevention and reduction in the Asia Pacific region. He believes that the office will continue to provide the necessary support and assistance to the work of TC and its Secretariat.

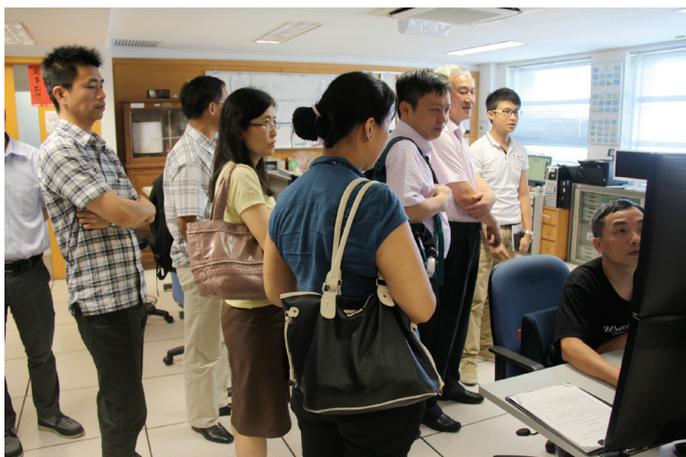
TC Secretary and TCS staff Visits SMG

TC Secretary Mr. YU Jixin leading all staff of TCS visited Macao Meteorological and Geophysical Bureau (SMG) on June 16, 2015. Director of SMG Dr. Fong Soi Kun, Deputy Director Ms. Leong Ka Cheng and focal points of WGM and TRCG took part in the meeting.

Mr. YU informed the situation of TCS running recently and expressed his highest appreciation for the strong support and kind cooperation from SMG to TCS. Dr. Fong briefed the latest development on real-time operation system and social service in SMG. Both sides emphasized the importance for the Committee to keep TCS running properly.

Taking the opportunity, TC Secretary and TCS staff visited the weather forecasting office and weather observation field.





has been the Executive Committee Member of Hong Kong Meteorological Society since 2000 and he has profound experience in collaborating with weather stakeholders to enhance public awareness on tropical cyclones. He is also an IT expert and has worked at an international TV news company for more than 10 years.

World Meteorological Organization appoints new Secretary-General



Petteri Taalas, the Director-General of the Finnish Meteorological Institute (FMI), has been appointed as the next Secretary-General of the World Meteorological Organization (WMO). His four-year term starts on 1 January 2016. His predecessor, Michel Jarraud, has held the post since January 2004. Mr Taalas obtained the required two-thirds majority in a vote held on 4 June at the World Meteorological Congress, which is taking place in Geneva from 25 May to 12 June.

Mr. YU Jixin, Secretary of Typhoon Committee, on behalf Typhoon Committee Secretariat and himself, sent congratulation message to Mr. Petteri Taalas on being appointed as the new Secretary General of WMO yesterday. Mr. YU emphasized that, the Typhoon Committee, under the auspice of WMO and ESCAP, has been playing a unique role in reducing the loss of life and properties and minimizing social, economic, and environmental impacts by typhoon-related disasters. Mr. YU also expressed that WMO Secretariat under his leadership will continue provide supports and guidance to the activities of Typhoon Committee for benefit its Members.

TCS Appoints the New Meteorologist



Mr. Clarence FONG, Founder and Director of Weather Underground of Hong Kong, has been appointed as the new Meteorologist of TCS.

Mr. FONG founded Weather Underground of Hong Kong in 1995 and he has been actively involved in promoting public weather education, particularly on tropical cyclones since then. He has published a

series of books focusing on Hong Kong weather and he has a leading Facebook page with 90,000 fans.

Mr. FONG worked at the Hong Kong Observatory in the 1990's after finishing the tropical cyclone landfall project with Prof. Johnny Chan at the City University of Hong Kong. He

TC NEWS FROM MEMBERS

HONG KONG, CHINA

1. 5-day tropical cyclone forecast tracks from the Hong Kong Observatory

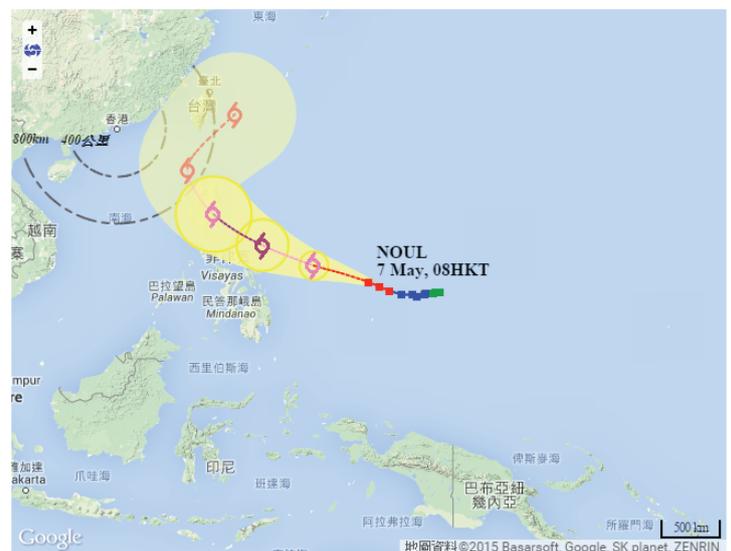
The Hong Kong Observatory starts issuing 5-day tropical cyclone forecast tracks on its website during the 2015 typhoon season. This is a major enhancement of the Observatory's tropical cyclone warning service since 2003 when 3-day forecast tracks were first introduced. The service enhancement results from the considerable improvement in the accuracy of the Observatory's track forecast achieved in recent years.

Accompanying the enhancement, a new "Potential Track Area" has been introduced to indicate the uncertainty of the track forecast (yellow shaded area in Figure 1). Based on historical error statistics, the uncertainty circles for 24, 48, 72, 96 and 120-hour forecast positions are defined such that the tropical cyclone is expected to fall within the circle at each forecast hour with a probability of 70%. These revised uncertainty circles replace the old circles constructed using mean position errors. The new presentation comes in line with that of the tropical cyclone track forecasts issued by a number of other warning agencies in the western North Pacific basin, including RSMC Tokyo, China Meteorological Administration (CMA) and Korea Meteorological Administration (KMA).

The Tropical Cyclone Warning bulletin (with abbreviated headings of "WTPQ20 VHHH" and "WTSS20 VHHH") and Subjective Forecast bulletin (with abbreviated headings of "FXPQ21 VHHH" and "FXSS21 VHHH") on exchange via GTS have also been enhanced to include the extended track forecasts.

Tropical Cyclone Track Information

Tropical Cyclone: NOUL Potential Track Area Satellite Image Radar Image



Name: Typhoon NOUL
Date: 7 May 2015
Position: 10.5 N, 134.3 E
Maximum sustained wind near centre: 140 km/h
Time: 08 HKT

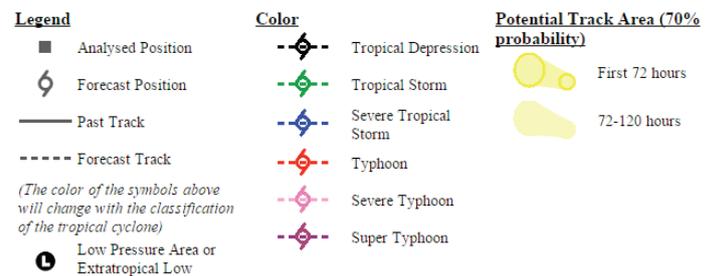


Figure 1 5-day tropical cyclone track forecast sample

2. The Hong Kong Observatory produces video on typhoon-related hazards

In support of disaster mitigation initiatives, the Hong Kong Observatory has produced short video on typhoon-related hazards (including strong wind, rainstorm, huge waves and storm surge) on behalf of the ESCAP/WMO Typhoon Committee to facilitate sharing and promotion by Members. The objective of this initiative is to promote public awareness on typhoon-related hazards, make the information more understandable to the public and make them react through visual impacts of short video. The initiative was raised by Typhoon Committee Working Group of Disaster Risk Reduction (WGDRR) and led by the Hong Kong Observatory.

The video was premiered at the Public Forum of the Third UN World Conference on Disaster Risk Reduction held in Sendai, Japan, from 14 to 18 March 2015 (Figure 2), and was also uploaded to the websites of Typhoon Committee, World Meteorological Organization and Hong Kong Observatory. Members are welcome to share the video to the community.

Hong Kong Observatory

https://www.youtube.com/watch?v=7v5f8GW_Mnc

Typhoon Committee

<http://www.typhooncommittee.org/2015/03/19/tc-hazard-video/>

World Meteorological Organization (WMO) YouTube channel

<https://www.youtube.com/user/wmovideomaster>

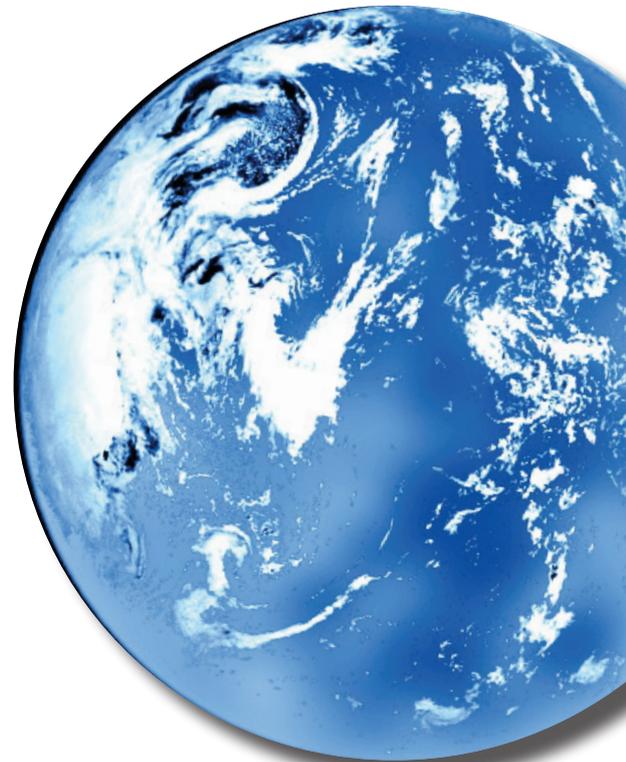


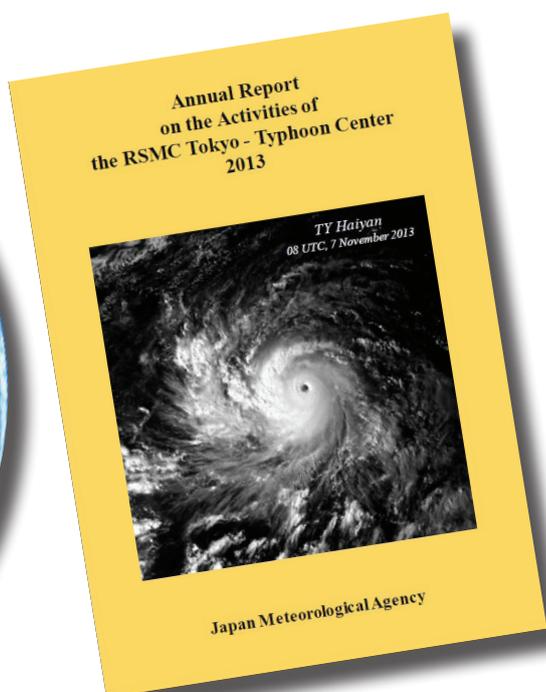
Figure 2 Video on typhoon-related hazards was premiered at the Third UN World Conference on Disaster Risk Reduction held in Sendai, Japan, in March 2015

Publications released by the RSMC Tokyo - Typhoon Center

RSMC Tokyo has released the Annual Report on the Activities of the RSMC Tokyo - Typhoon Center 2013 and RSMC Technical Review No. 17. Both publications are available on the RSMC Tokyo - Typhoon Center website at http://www.jma.go.jp/jma/jma-eng/jma-center/rsmc-hp-pub-eg/RSMC_HP.htm.

D) Annual Report on the Activities of the RSMC Tokyo - Typhoon Center

The Annual Report on the Activities of the RSMC Tokyo - Typhoon Center 2013 was released in December 2014. The publication details RSMC products, analysis of tropical cyclones, and verification/specifications of numerical models. The DVD version distributed to Members includes MTSAT satellite images of all 2013 tropical cyclones along with a satellite viewer program, SATAID.



II) RSMC Technical Review No. 17

RSMC Technical Review No. 17 was published in May 2015. This issue highlights the March 2014 upgrade of JMA's Typhoon Ensemble Prediction System (TEPS) (Kyoda et al. 2015), details the subsequent update of the TEPS TC track forecast uncertainty estimation method (Narita 2015), and gives an overview of JMA's Tropical Cyclone Heat Potential (TCHP) product and its statistical relationship with TC intensification (Wada 2015).

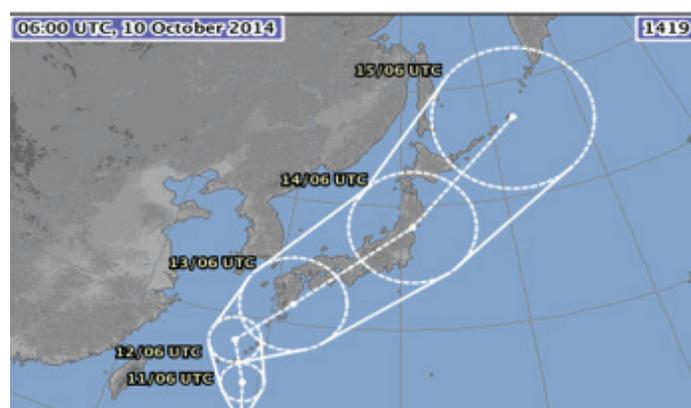
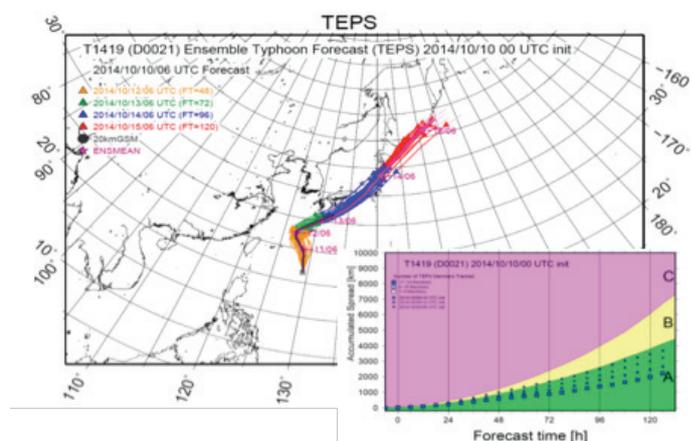


Figure (top) TC tracks from a TEPS run started at 00 UTC on 10 October 2014 and cumulative ensemble spread; (bottom) probability circles determined from the spread

III) NTP Website Re-launch

On 26 May 2015, JMA's RSMC Tokyo - Typhoon

Center re-launched its Numerical Typhoon Prediction (NTP) website with a completely new design for enriched content and improved user friendliness. The site provides the following tropical cyclone (TC) products to support the provision of TC operational services by Committee Members:

- 1) Tropical cyclone track predictions in table and chart format from nine major NWP centers (BoM, MSC, CMA, DWD, KMA, UKMO, NCEP, ECMWF, and JMA)
- 2) JMA Typhoon Ensemble Prediction System track guidance
- 3) NWP model products in chart format from NWP centers
- 3) Satellite image TC analysis (EDA and Dvorak)
- 4) Storm surge forecasts (distribution maps and time-series charts)
- 5) Sea surface temperature (SST) contour charts
- 6) Tropical cyclone heat potential (TCHP) contour charts
- 7) Typhoon intensity estimations with microwave satellite imagery

The website is accessible only to Committee Members, and will be upgraded in line with their needs and feedback.

Himawari-8 soon-to-be operational

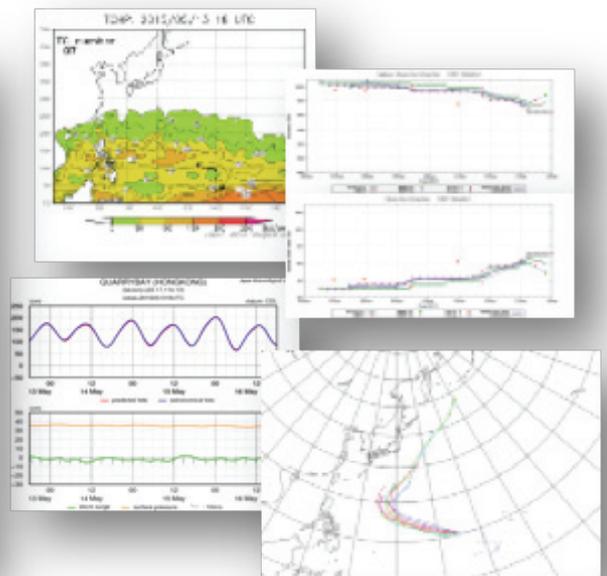
The next-generation geostationary meteorological satellite of the Japan Meteorological Agency (JMA), Himawari-8, will begin operation at 02:00 UTC on 7 July 2015, replacing the current operational satellite, MTSAT-2.

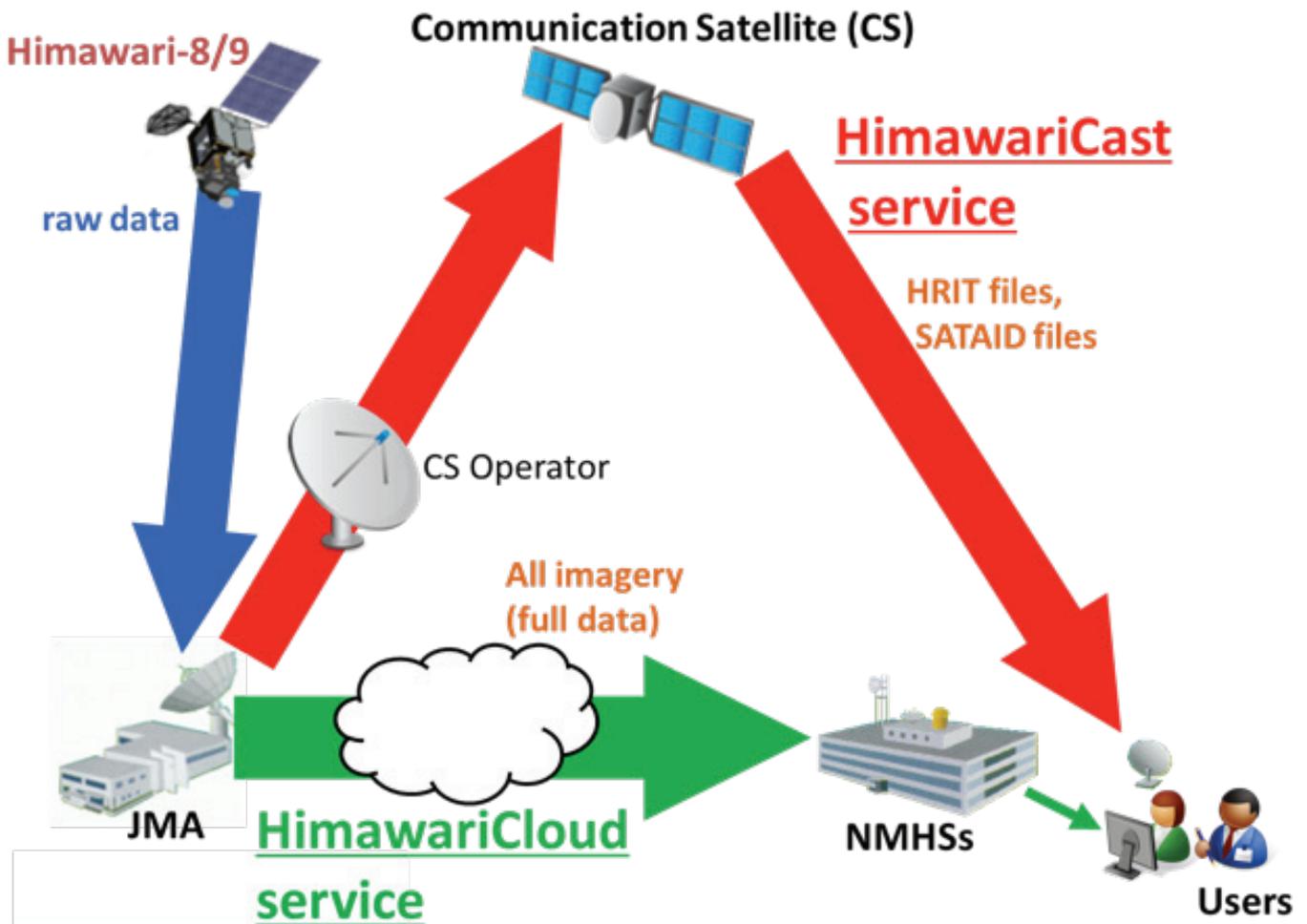
JMA will distribute multi-band, high-frequency and high-resolution data from the satellite in two ways. One is the HimawariCast service, by which primary sets of imagery will be disseminated for operational meteorological services via a communication satellite. The other is the HimawariCloud service, by which full sets of imagery will be delivered to National Meteorological and Hydrological Services (NMHSs) via an Internet cloud service.

HimawariCast:

JMA started the HimawariCast service on 29 January 2015. Service provision currently involves the dissemination of operational MTSAT-2 imagery at 30/60-minute intervals in full-disk HRIT/LRIT files. HRIT files are distributed for all five of MTSAT-2's bands.

JMA plans to start Himawari-8 imagery dissemination





from 1 July 2015 before Himawari-8 becomes operational. Himawari-8 imagery will be provided every 10 minutes under the service, and the number of bands for HRIT files will be increased from 5 to 14 (out of Himawari-8's 16 bands). Furthermore, 1 band of high-spatial and high-bit-rate Himawari-8 imagery will be disseminated in the nighttime. These multi-band and high-frequency observation data are expected to support the timely creation of RGB products and contribute to disaster risk reduction in the East Asia and Western Pacific regions.

JMA also disseminates meteorological data and products in Satellite Animation and Interactive Diagnosis (SATAID) format, including numerical weather predictions and observational data. The Agency's SATAID software enables the superimposition of these data and products onto satellite imagery.

Up-to-date information including specifications of related receiving equipment is available at:

http://www.data.jma.go.jp/mscweb/en/himawari89/himawari_cast/himawari_cast.html

HimawariCloud:

JMA began operation of its HimawariCloud service with distribution of Himawari-8 in-orbit-test imagery on 8 April 2015.

Under the service, Himawari Standard Data from all 16 bands of Himawari-8 will be distributed with the finest spatial resolution available. True-color images composed of data from three visible bands in Portable Network Graphics (PNG) format and target-area images in Network Common Data Form (NetCDF) will also be distributed. NMHSs in the coverage area of Himawari-8 can access the service and download these data using an HTTP 1.1 client such as a Web browser or a Wget command.

The following web page provides technical information on how to access/download data and other matters: http://www.data.jma.go.jp/mscweb/en/himawari89/cloud_service/cloud_service.html



1. Hosting Guangdong – Hong Kong – Macao Seminar on Meteorological Science and Technology and the Meteorological Cooperation Meeting

Macao hosted the 29th Session of Guangdong – Hong Kong – Macao Seminar on Meteorological Science and Technology and the 20th Session of Meteorological Cooperation Meeting between 20th and 22nd January this year. The meteorological experts from the Guangdong Province, Hong Kong and Macao share and discuss their analytical achievements and meteorological operations experiences at the conference.

During the Cooperation meeting, the three parties summarized the overall situation of their operation for the past year. And discuss the possibility cooperation in the future base on the topics of “Meteorological data sharing”, “Development of numerical forecasting technique”, “Construction on comprehensive weather station”, “Enhancement on weather forecast and warning services”, and “Analysis and research on

climate change” etc.

At the Seminar, a total of 27 papers were presented which composed with a variety of topics. It consists of “Significant Weather Process (Typhoon and Rainstorm) Analytics”, “Numerical Prediction Model and Product development, Validation and Application”, “New Forecasting Techniques and Operation Applications”, “Research on Climate Change, Climate Forecast and City Weather”, “Technology and Service on Weather Monitoring”.

2. Automated Weather Station(AWS) Program conduct on Campus

We (Macao Meteorological and Geophysical Bureau) have always been committed in promoting the meteorological knowledge to all students in Macao. The Weather Station Program on Campus was established from the year of 2009. Our Bureau will provide some basic traditional meteorological

instruments which include Stevenson screen, wet bulb thermometer, maximum thermometer, minimum thermometer and mercury barometer, etc. We also have the technical support to schools that joined this program. From this program, the students can easily approach the meteorological knowledge and enrich their extracurricular activities. And also enhance the students' sense of responsibility, strengthen their observation, analytical and practical ability.

With the advances in information technology, and the popularization of Automated Weather Station (AWS), our Bureau enhance the AWS program on campus in the 2014/2015 academic year. We allot the AWS instruments to 8 schools. Students can get the latest weather situation (include temperature, relative humidity, precipitation, sea level pressure, wind

direction and wind speed, etc.) by the computer from AWS system. Simultaneously, in order to strengthen the student's knowledge on weather phenomena and process and enhance their scientific analysis capability, we offer a basic meteorological course to the campus which attend this program. Through the data analysis from the AWS system and the relative activities, the student can recognize the requirement of the observation court, the operational principle of the equipment, the four seasons' characteristic of Macao climate, the major weather systems that influence Macao and variation characteristics of the system's process and its major meteorological elements





1. Tropical Depression Information Service

The National Typhoon Center of the KMA (NTC/KMA) launched the Tropical Depression (TD) forecast service to the public on 1st May 2015. This service is intended to ensure the preparedness of tropical cyclone disasters through the national disaster management system as part of the Korean government's projects.

TD forecast has been required for the prevention of disasters, as a tropical cyclone, though dissipated to a TD, still may be accompanied by dangerous meteorological phenomena such as heavy rain and strong wind. Therefore, the NTC has prepared the TD service since 2013 and carried out two-year beta test for the TDs, which are expected to develop into a tropical storm (TS) within 24 hours or affect the KMA's jurisdiction areas as a TD status.

TD information contains its location, intensity, moving speed and direction. It is serviced through KMA's website and mobile, etc., in the same way that Typhoon information service is provided. It is expected to contribute to mitigating the damage from tropical cyclones.

2. Capacity Building on the Typhoon Analysis and Forecast

The NTC/KMA has carried out the Typhoon Research Fellowship Program of the Training and Research Coordination Group of Typhoon committee for many typhoon experts from the ESCAP/WMO Typhoon Committee members since 2001. Through this fellowship, they improved their typhoon analysis and forecast skills and acquired the necessary practical know-how. In 2015, five typhoon experts from the Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA), Vietnam National Center for Hydro-Meteorological

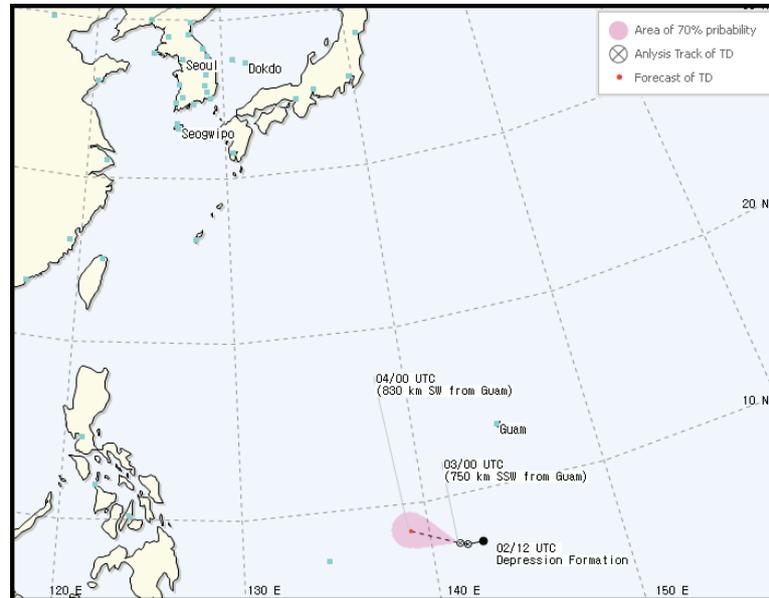


Fig. 1. Tropical Depression Information

Forecasting (NCHMF), Department of Meteorology and Hydrology (DMH) of the Lao PDR, and the Thailand Meteorological Department (TMD) were trained for two weeks (19 April to 2 May 2015) by the staff of NTC/KMA. The training course provided several lectures on typhoon monitoring, interpretation of satellite-based and radar images, typhoon track and intensity forecast and tropical depression or extra-tropical transition, and practicing the typhoon forecast using the typhoon analysis and prediction system. They also had an opportunity to visit the KMA headquarters in Seoul, National Meteorological Satellite Center in Jincheon, Korea, and Weather Radar Center in Seoul.

3. Co-Hosting the 8th China-Korea Joint

Workshop on Tropical Cyclones



Fig. 2. Photos with five experts participated in TRFP, 2015: Completion Ceremony and Culture Tour (lower right)



The NTC/KMA and the Shanghai Typhoon Institute of China Meteorological Administration (STI/CMA) have co-hosted a joint workshop every year on tropical cyclones since 2008. This year the STI/CMA and NTC/KMA held the 8th workshop on 18-23 May 2015, at Shanghai Meteorological Service, China. It was joined by over 50 experts on typhoon and related fields from KMA, CMA, Chinese Academy of Meteorological Sciences (CAMS) and four Chinese universities. The workshop was comprised of 4 sessions such as Typhoon forecast technique, Intensity and frequency, Observation research and Typhoon warning service, and 27 presentations including 7 invited talks. The delegates from the NTC/KMA and

STI/CMA had an intensive discussion for the future collaboration activities. They agreed to exchange experts for sharing the technology of typhoon formation detection and the methodology of best-track data generation, depending on the interests of each organization this year. The next workshop would be held in the Republic of Korea in 2016.



Fig. 3. Photos of participants in the 8th Korea-China Joint Workshop on Tropical Cyclones: Opening address (upper left), Group photo (upper right), Bilateral talk (lower left) and Visit to the China National Meteorological Center (lower right).



1. TMD sent one staff to join in the Typhoon Committee Research Fellowship Scheme for 2015.

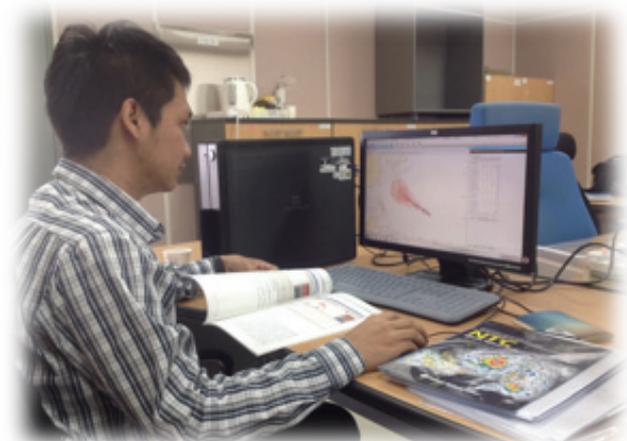
Mr. Somprat Srithagon a meteorologist from Weather Forecast Bureau, Thai Meteorological Department (TMD) had been participated in the Typhoon Committee Research Fellowship Scheme for 2015 which was held in the National Typhoon Center, Korea Meteorological Administration (KMA) from 19 April – 2 May 2015.



Participants in the Typhoon Committee Research Fellowship Scheme for 2015 at National Typhoon Center, Republic of Korea (From left, participants from the Philippines, Vietnam, Laos and Thailand (Mr. Somprat Srithagon) respectively.)



(Left picture) Thai participant, Mr. Somprat was preparing to make a presentation and (right picture) participants were discussing and sharing their experience during the session.



Mr. Somprat was practicing the Typhoon Analysis and Prediction System (TAPS) which is for typhoon analysis and forecast.

2. The Royal Irrigation Department (RID), Thailand had participated in the 4th Meeting of TC Working Group on Hydrology linked with the 7th World Water Forum Conference on 14 –18 April 2015 at Daegu, Republic of Korea.

Under the Working Group of Hydrology for Typhoon Committee, the Royal Irrigation Department of Thailand by

1. Mr. Thada SUKHAPUNNAPHAN
2. Mr. Jaray THONGDUANG
3. Mrs. Supinda WATTANAKARN

had participated in the 4th Meeting of TC Working Group on Hydrology linked with the 7th World Water Forum Conference on 14 – 18 April 2015 at Daegu, Republic of Korea.



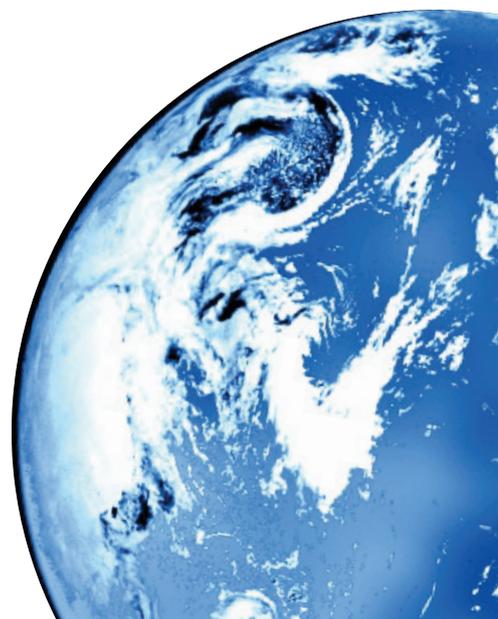
Mr. Thada SUKHAPUNNAPHAN gave the presentation on “Disaster risk management case (2011 Thailand Big Flood)” in the theme of Preparedness, Response and Adaptation against Extreme Flood under Climate Change for the 7th World Water Forum.

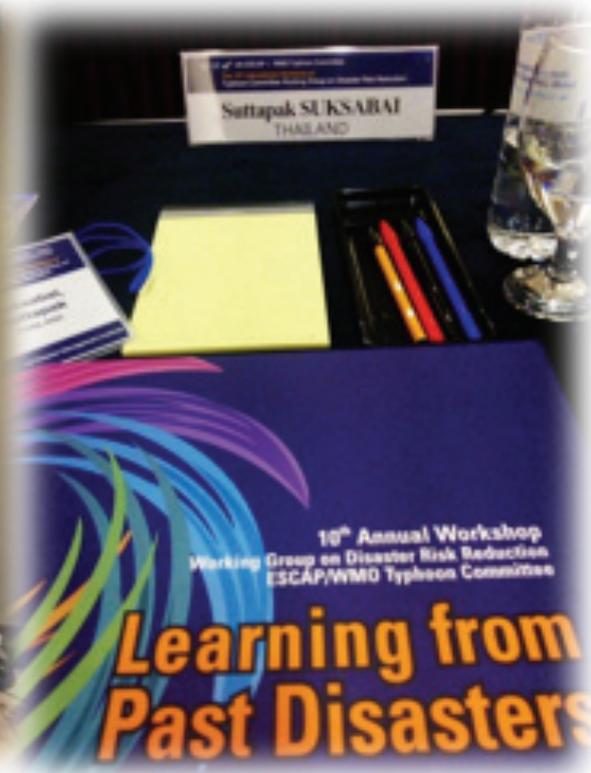


3. Department of Disaster Prevention and Mitigation (DDPM), Thailand sent one staff to attend the 10th Annual Meeting of Working Group on Disaster Risk Reduction held in Seoul, Republic of Korea from 19 to 20 May 2015.

Thailand representative, Ms. Suttapak Suksabai, Policy and Plan Analyst, Department of Disaster Prevention and Mitigation had presented the report analyzes the huge disaster management in the past. For example 3 events e.g. the floods in the year 2011, earthquake in Chiang Rai, Thailand as of May 2014, and the building collapsed in Pathumthani province, Thailand in 2014. As well as the implementation of Thailand to disasters risk reduction in developing a national policy and plan is the draft plan of the

National Disaster Prevention and Mitigation year 2015, which the Cabinet on March 31, 2558 had approved.

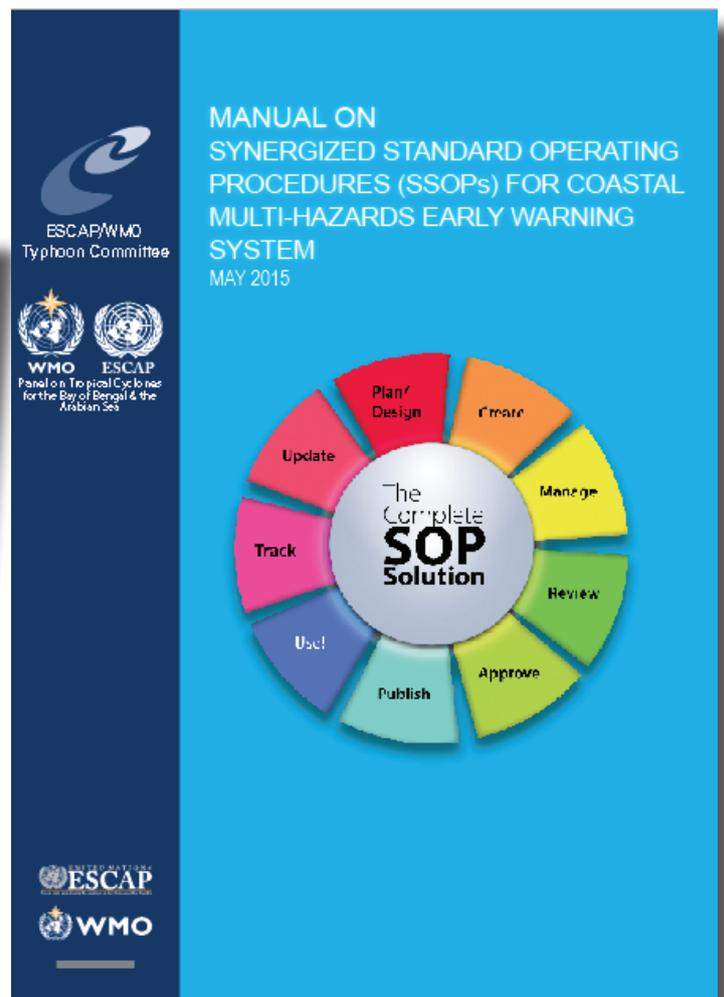
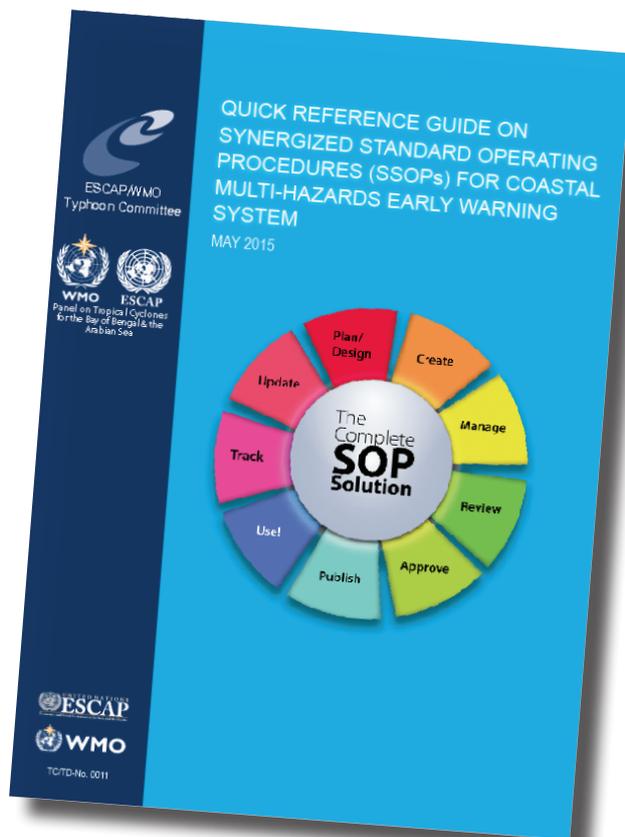




National Disaster Management Institute, Ministry of Security and Public Administration, Republic of Korea with Working Group of Disaster Risk Reduction (WGDRR) of UNESCAP/WMO Typhoon Committee organized the 10th annual meeting of Working Group on Disaster Risk Reduction at Best Western Premium Garden Seoul Hotel, Republic of Korea from 19 to 20 May 2015.



Typhoon Committee Publications



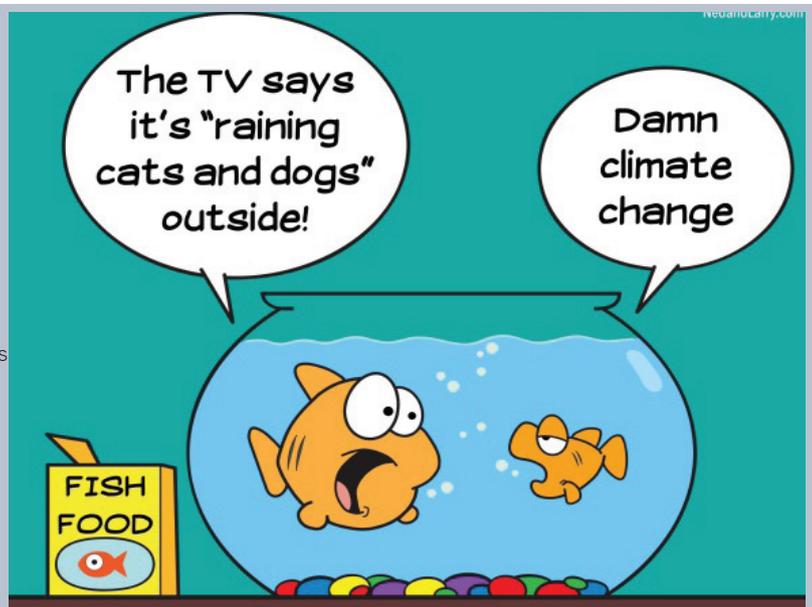
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Humour Corner

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