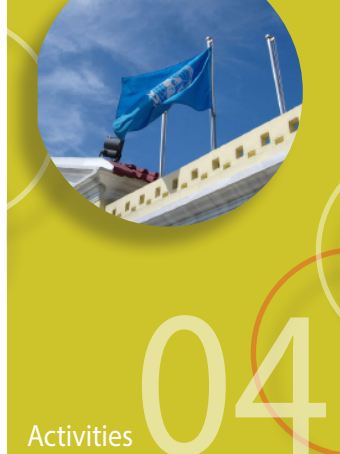




48th TC
Session

01



Activities

04



On the
News

08



MEMBERS
Activities

09



ESCAP/WMO
Typhoon Committee



WMO

Issue 32 • Year 2016
Typhoon Committee
Secretariat
Macao, China

1st newsletter

The Forty-Eighth Session of the Typhoon Committee HONOLULU-HAWAII, 22 to 25 February 2016



The ESCAP/WMO Typhoon Committee held its Forty-eighth Session in Honolulu, Hawaii, United States of America from 22 to 25 February 2016. The Session was convened by the Typhoon Committee, under the auspices of the Economic and Social Commission for Asia and the Pacific (ESCAP) and the World Meteorological Organization (WMO), and hosted by the National Oceanic and Atmospheric Administration (NOAA).

At the Session, the Committee reviewed the progress made in its programme of work in 2015 and made plans for activities to be undertaken in 2016 and beyond,

together with the support required to implement them. This year, the Session took on special significance, as it also covered strategic and development issues such as the new of the Strategic Plan 2016-2020.

The Session was attended by 65 participants from 10 of 14 Members of the Typhoon Committee, namely: China; Hong Kong, China; Japan; Macao, China; Malaysia; Philippines; Republic of Korea; Thailand; the United States of America (USA); and the Socialist Republic of Viet Nam.

Mr. PENG Taoyong, the representatives of WMO attended the whole Session; Mrs. Shamika Sirimanne, Representative of

United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), attended the open ceremony through video recorder. The Session was also attended by observers from Joint Typhoon Warning Center (JTWC), University of Hawaii and Sun Yat Seng University of China.

Mr. Raymond Tanabe, Pacific Region Director, NOAA was elected Chairperson and Dr. Toshihiko Hashida, Director-General, Forecast Department of Japan Meteorological Agency (JMA) was elected Vice-Chairperson of the Committee. Mr. Kenneth Kleeschulte, Meteorologist/Hydrology Focal Point of National Weather Service (NWS) Guam (NOAA), was elected Chairperson of the Drafting Committee.



newsletter

1st - 2016



OSUFFIM Working Meeting in Thailand

A working meeting on OSUFFIM was held in Hat Yai Thailand from 17 to 18 May 2016. The chief scientist of OSUFFIM project, Professor Yangbo Chen from Sun Yat-sen University (SYS University), the Thailand team leader of OSUFFIM, Mr. Thada Sukhapunnaphan from Royal Irrigation Department (RID), Thailand and other team members attended the meeting.

During the meeting, Prof. Yangbo Chen introduced the progress of Thailand project of OSUFFIM and presented the preliminary results achieved. Participants had deep discussion on the progresses and the results. In order to have better understanding the condition in the city and in the catchment for establishing the operational system, a field survey was arranged to the hydrological stations and rain gauges along the Utaphao river, the Hat Yai flood way and inundation area of 2010 flood event. A seminar was held in the Public Work Department of Hat Yai municipal government with full discussion on possible cooperation of OSUFFIM.

The plan for next steps and roadmap were reached consensus on data acquisition arrangement, system establishment and installation. The Thailand team expressed their desire to run this system for Utaphao river and Hat Yai city in the flooding season start from November 2016.



Survey at hydrological stations and rain gauges of Utaphao river



Visiting Hat Yai flood way



Visiting RID Sonklar Province Office



Seminar in Public Work Department of Hat Yai Municipal Government

WGDRR Expert Mission 2016 in China

According to the plan and decision for the activities of Working Group on Disaster risk reduction at the 48th Typhoon Committee session that was held in Honolulu, USA on 22-25 February 2016, an expert mission in China on 26-27 September 2016 was successfully and fruitfully conducted under the framework, as one of the Annual Operating Projects led by National Disaster Management Institute (NDMI), Republic of Korea and coordinated by Typhoon Committee Secretariat (TCS).

In the implementation of this project, NDMI assigned the experts to National Disaster Reduction Center of China (NDRCC) and China Meteorological Administration (CMA) in Beijing, China to introduce new technologies and development related to DRR in the Republic of Korea, as well as the progress

and status of the activities of WGDRR. On the other hand, China experts from CMA and NDRCC presented the DRR Information in China such as the Data management, Remote Sensing Application for Disaster Management and technologies concerning meteorology, etc. Taking this opportunity, the participants also exchanged the views regarding the future WGDRR plans and suggested enhancing the cooperation on DRR issues for either projects or technologies in the future.

During the Expert Mission, the experts visited CMA headquarters to learn more about the technologies used for forecasting and media policies on how to effectively release the weather news to the general public especially for severe weather in China.



Expert mission in National Disaster Reduction Center of China



Expert Mission in China
Meteorological Administration

11th Annual Workshop of Working Group on Disaster Risk Reduction



The 11th TC WGDRR Annual Workshop was successfully held in Ulsan, the Republic of Korea. The meeting that was hosted and contributed by National Disaster Management Institute (NDMI) of Republic of Korea every year was aimed at sharing information related to Disaster risk reduction among the TC members, as well as to follow-up on the progress of AOPs and making new ideas to new projects on WGDRR. This time, the sharing topic for the mentioned workshop is "Promoting Knowledge Sharing within WGDRR. During the workshop, the participating DRR members introduced and share their DRR management experience and policies. Then, the participants had made a warm discussion to share their view of ways to improve the Disaster management and WGDRR Projects, especially for how to implement Sendai Framework by WGDRR.

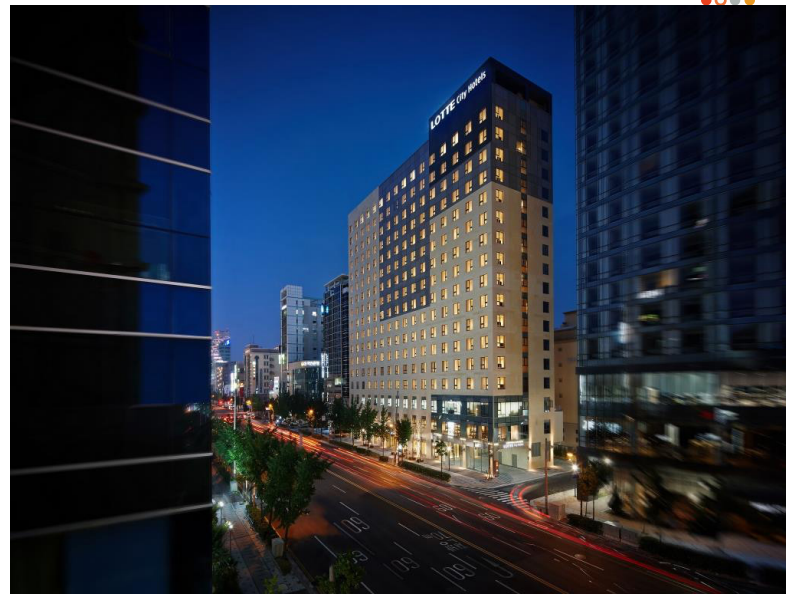
In addition, the annual workshop this year, for the first time, was held in Ulsan, as NDMI just moved

their institute building from Seoul to Ulsan which is well equipped with facilities and simulators related to disaster risk reduction. Participants have been arranged to visit the NDMI's new building during the workshop, providing an impressive display of their equipment on DRR research and study.

Other special arrangements for the workshop this year was that NDMI invited, for the first time, the AWG members to join the annual workshop for discussing the SSOP Project phase II and TC new Strategic Plan to align with the Sendai Framework. In the meantime, AWG members also took this occasion to discuss the main issues regarding TC's development. During the plenary meeting in the workshop, AWG members and the expert guests who attended the workshop have given their insightful and directive comments that can improve WGDRR's work in the coming future.



The workshop had taken place at LOTTE Hotel Ulsan on 24-27 May 2016 in Ulsan. There were twenty more participants to attend the workshop from 8 members and 8 AWG members and some expert guests, as well as the NDMI's president and their experts and staffs. Among the participants, those include Mr. SHIM Jaehyun (Director General of NDMI), Mr. Han, Jin Kyu, (Public Safety Officer), Ulsan metropolitan City, Mr. Kim, Sung Eun (Associate Economic Affair Officer, UNESCAP), Mr. Peng Taoyong (Chief of Tropical Cyclone Programme Division, WMO), Mr. Tanabe, Raymond (Chair of ESCAP Typhoon Committee), and Mr. Yu Jixin (Secretary of TC), Mr. Olavo (ex- Secretary of TC), Mr. Ono, Yuichi (Tohoku University) and Mr. Ti Le-HUU (DRR expert). The members that participated in the workshop this year were namely China, Japan, Republic of Korea, Laos, Macau, China, Malaysia, USA and Vietnam. TCS staffs were also invited to attend the meeting.



Visiting NDMI's new building in Ulsan, the Republic of Korea

On the NEWS

Mr. Olavo Rasquinho retired recently from his position as Secretary of the UNESCAP/ WMO Typhoon Committee, whose headquarters are in Macao, China has been elected as President of the Portuguese Association of Meteorology and Geophysics (APMG).

APMG

Associação Portuguesa de Meteorologia e Geofísica



 **European Meteorological Society**

Members News Room Meetings & Events Awards Publications

HOME > APMG, PORTUGAL: NEW PRESIDENT ELECTED

 04/03/2016

APMG, Portugal elects Olavo Rasquinho as new President

On 17 February 2016 the [Portuguese Association of Meteorology and Geophysics \(APMG\)](#) has elected Olavo Rasquinho as its new President. He succeeds Luis Pessanha. Sílvia Antunes continues as General Secretary of the Society.

Mr. Olavo Rasquinho retired recently from his position as Secretary of the UNESCAP/ WMO Typhoon Committee, whose headquarters are in Macao, China. During the Portuguese administration he also was Director of the Macao Meteorological and Geophysical Bureau (1996-1998).

In Portugal, he performed functions in the Portuguese Institute of Meteorology and Geophysics as head of the International Affairs Division, head of the Meteorological Watching Office of the Lisbon International Airport and head of the Weather Analysis and Forecasting Center.

He also performed functions as WMO and ICAO expert in several missions in Angola, Mozambique, Dominican Republic and Guinea Bissau.



Olavo Rasquinho

DETAILS ON HIS CAREER:

- > Secretary of the UN ESCAP-WMO Typhoon Committee (Feb. 2007-Apr. 2015)
- > Head of the Task Force of the UN ESCAP/WMO Typhoon Committee project Synergized Standard Operating Procedures for Coastal Multi-Hazards Early Warning Systems-SSOP (2013-2015)
- > Head of the International Relations of Institute of Meteorology of Portugal (1998-2004)
- > EU expert in Mozambique – Co-author of the “Plano para o Reforço das Capacidades Institucionais e Técnicas do Instituto de Meteorologia de Moçambique – INAM” (“Plan for Strengthening the Technical and Institutional Capacity of the Mozambique Institute of Meteorology”) – December 2001
- > Director of Macao Meteorological and Geophysical Bureau and Permanent Representative of Macao with WMO (1996-1998)



TC News from Members



China

● TC Research Fellowship

Under the 2016 Annual Operating Plan of the Working Group on Meteorology – Verification of Tropical Cyclone Operational Forecast in which it was proposed an offer of Research Fellowship as one of its actions. The research topic of the Fellowship is “Verification of Tropical Cyclone Operational Forecast”. This Fellowship is supported by Shanghai Typhoon Institute (STI), together with support from TCTF, with the duration of two months (tentatively from October to November 2016). Members of Typhoon Committee are going to submit nominations to Typhoon Committee before August 31.

● The publication of Tropical Cyclone Research and Review

13 issues of Tropical Cyclone Research and Review were published with a total of 89 papers. Authors are from Typhoon Committee Members and several non-Members, including Australia, India, Oman, Germany and Russia. More and more experts voluntarily submit their contribution to the journal.

According to TCRR official web statistics, our readers spread over 100 countries and regions. Total downloads reached to 69,000 which means average download of

each article is 775.

Statistics show that our journal is attracting more and more attention from a wide range of readers. The journal is under the process of Science Citation Index application.

According to the annual operation plan, TCRR is planning to invite 2 experts from the Members to be this year's visiting editor.

For further information, please visit: <http://tccr.typhoon.gov.cn/>.

● EXOTICCA

The 2016 Kickoff meeting of EXOTICCA-China was held in Beijing on May 31. During this meeting, CMA organized all the participants of China to discuss the details of 2016 field experiment. The topics included experiment chart, scientific objective, experiment area, observation instruments and experiment funding. EXOTICCA-2016 will contain two experiment areas (South/East China Sea). CMA and HKO will start a cooperated observation experiment in South China Sea; and in East China Sea, STI also plan to hold the experiment together with Zhejiang and Fujian Meteorology Service. In EXOTICCA-2016, many observation instruments including rocket/man-aircraft dropsondes, unman aircraft, SAR satellite,

mobile/fixed radar and buoys will be used. In addition, the research project and data policy are also being discussed. It is highly hoped to be a demonstration experiment project of typhoon experiment.

International Cooperation and Communication

- **9th China-Korea Joint workshop on tropical cyclones**

Participants from Shanghai Typhoon Institute, Shanghai Marine Meteorological

Center and Typhoon and Marine Weather Forecasting Center of China Meteorological Administration attended the 9th China-Korea joint workshop on tropical cyclones, which was held in Republic of Korea during 16-20 May. National Typhoon Center (NTC) of Korea Meteorological Administration (KMA) organized the workshop. This annual event promotes the mutual exchange of the latest progress in tropical cyclone research and operation between Korea and China. It also enhances bilateral cooperation on tropical cyclone forecasting techniques.



1. New tool for searching historical tropical cyclone information in Hong Kong

The Hong Kong Observatory has recently developed a new information search system that assists forecasters and researchers to retrieve key information from historical tropical cyclones. Users can easily search for tropical cyclone cases using different prescribed criteria (such as month of genesis, maximum sustained winds, local tropical cyclone signals, maximum storm surge values, tropical cyclone related rainfall, etc.) and display the track as well as other information of the selected tropical cyclones on a GIS display interface. Based on the search results, the system also allows users to readily download the relevant information and data for further processing and analysis.

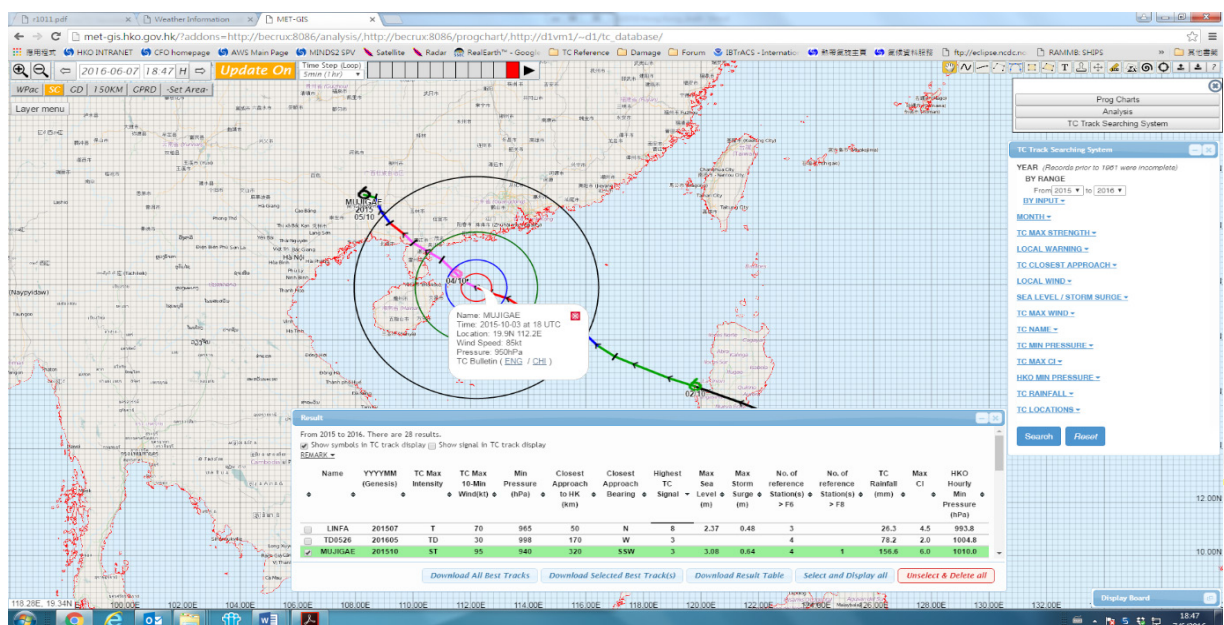


Figure 1 Sample display from the new historical tropical cyclone search system developed by the Hong Kong Observatory



Japan

Chiashi Muroi Appointed as Tokyo Typhoon Center Head

Mr. Chiashi Muroi was appointed as the new head of the Tokyo Typhoon Center at the Japan Meteorological Agency (JMA) on 25 March 2016, succeeding Tsukasa Fujita. Mr. Muroi graduated from the University of Tokyo and began his career as a scientific officer at JMA

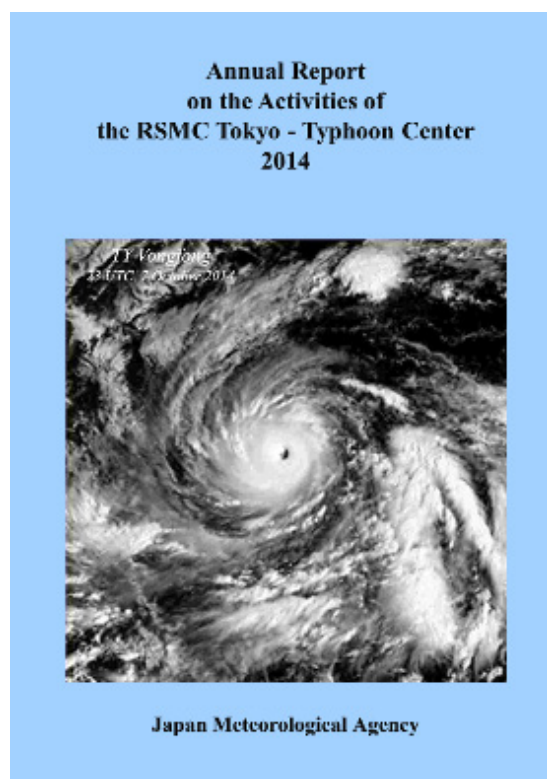
in 1989. In 2007 after working as a researcher at JMA's Meteorological Research Institute, he transferred to the Numerical Prediction Division, where he was actively involved in the development of numerical weather prediction (NWP) models. From 2014 to 2016 he served as the Director of the Disaster Mitigation Department at Sapporo Regional Headquarters, and has collaborated with prefectural Disaster Risk Reduction authorities to enhance public awareness on meteorological disaster advisories and warnings.

Publications released by the RSMC Tokyo - Typhoon Center

➤ Annual Report on the Activities of the RSMC Tokyo - Typhoon Center

The Annual Report on the Activities of the RSMC Tokyo - Typhoon Center 2014 was released in December 2015. 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 2014 tropical cyclones along with a satellite viewer program known as SATAID. This publication is available on the RSMC Tokyo - Typhoon Center website at <http://www.jma.go.jp/jma/jma-eng/jma-center/rsmc-hp-pub-eg/annualreport.html>.



Annual Report (DVD version also available.)

➤ RSMC Technical Review No. 18

In March 2016, RSMC Technical Review No. 18 was published. This issue describes two new JMA methods of tropical cyclone (TC) intensity estimation. One is a weighted consensus method with TC intensity estimated based on the Dvorak technique and warm core intensity observed by the Advanced Microwave

Sounding Unit-A (AMSU-A) of NOAA and the MetOp series of polar-orbiting satellites. This consensus estimate has higher accuracy than Dvorak-based TC intensity estimates. The other is a method using single ground-based Doppler radar observations which enables us to estimate TC intensity at five-minute intervals with the accuracy comparable to or better than that of conventional methods such as Dvorak. This publication is available on the RSMC Tokyo - Typhoon Center website at <http://www.jma.go.jp/jma/jma-eng/jma-center/rsmc-hp-pub-eg/techrev.htm>.

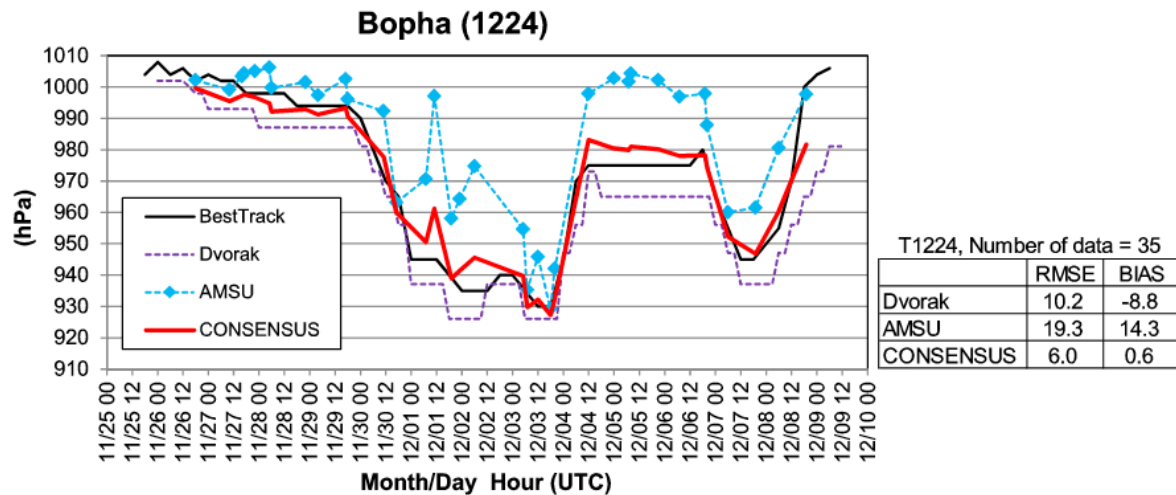


Fig. 1: Time-series representation of minimum sea level pressure based on Dvorak, AMSU, consensus and best track for TC Bopha (1224)

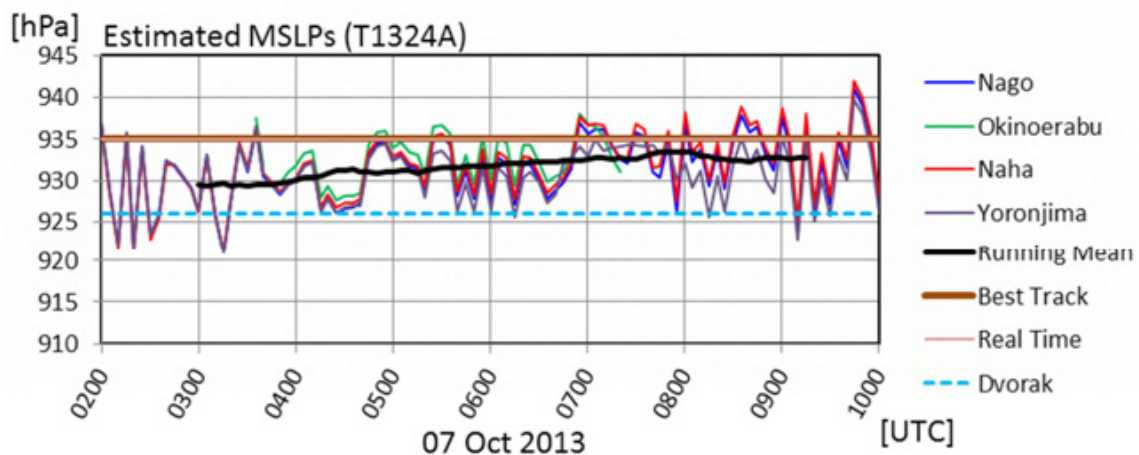


Fig. 2: Time-series representation of minimum sea level pressure based on Doppler radar (blue, green, red and purple lines), their running mean (2 hours; black line), best track (brown line), real time (pink line) and Dvorak (light-blue dashed line) for TC Danas (1324A)

Tropical Cyclone Activity Prediction

RSMC Tokyo promotes the operational use of ensemble techniques for TC operational forecasting under the Working Group on Meteorology (WGM). In 2015, RSMC Tokyo reported that global ensembles of ECMWF, JMA, NCEP and UKMO are skillful enough to provide guidance on TC genesis predictions in comparison to climatological forecasts. On 15 June 2016, RSMC Tokyo

began providing two- and five-day TC activity predictions using the ensembles of ECMWF and UKMO, and their consensus, to Typhoon Committee Members via the Numerical Typhoon Prediction (NTP) website (<https://tynwp-web.kishou.go.jp/>) in accordance with the WGM Annual Operation Plan for 2016. TC activity is defined as the probability of a TC being present within a 300 km radius of a certain location during the forecast time window. For more details, see Yamaguchi et al. 2015 (<http://journals.ametsoc.org/doi/abs/10.1175/WAF-D-14-00136.1>).

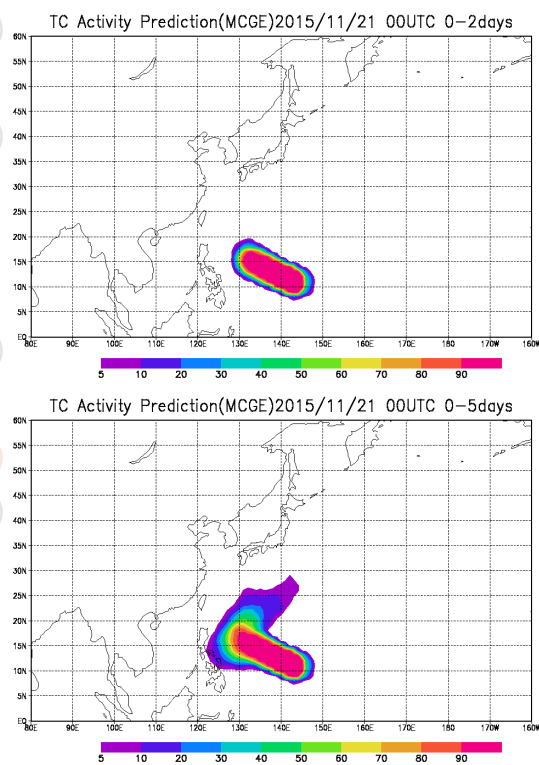


Fig. 3: TC activity prediction based on a consensus of ECMWF and UKMO ensembles over periods of two days (left) and five days (right).

Improvement of Storm Surge Information

In its role as RSMC Tokyo, the Japan Meteorological Agency (JMA) has enhanced its storm surge products for Typhoon Committee Members by modifying storm surge model operation to enable reference to a greater

number of forecasts.

In June 2016, JMA began issuing multi-scenario storm surge predictions in cases where a typhoon is present in the relevant area during the forecast period. In the formulation of these predictions, cluster analysis is performed to extract five typical typhoon tracks from 25 members of the JMA Typhoon Ensemble System (TEPS). Storm surges are predicted using these tracks to help evaluate uncertainty stemming from typhoon track error. Along with storm surge prediction based on official typhoon tracks, six predictions are now provided.

JMA began to run the storm surge model daily on an experimental basis on 13 January 2016. This operation supports the provision of predictions for storm surges generated by monsoon winds or extra-tropical cyclones as well as typhoons. The information is expected to help clarify storm surge risks in winter.

The number of stations providing data for storm surge time-series charts has also been increased. A total of 17 stations in Malaysia were added on 13 January 2016, bringing the overall total to 68. JMA plans to add further locations in response to requests from Typhoon Committee Members in due course.

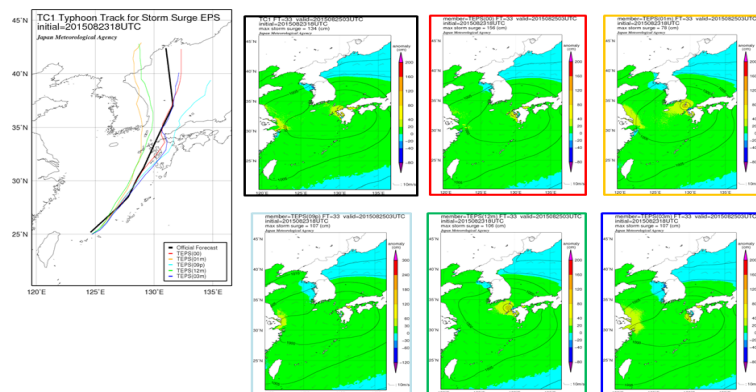


Fig. Example of multi-scenario storm surge prediction

The map on the left shows the official forecast (black line) and five typical typhoon tracks extracted from TEPS. The maps on the right show storm surge distribution calculated on the basis of each track (border colors indicate the corresponding track).



Thailand

1. TMD sent two staff undertaking the Typhoon Committee Research Fellowship Scheme for 2016

Mr. Boonthum Tanglumlead, Meteorologist, Weather Forecast Bureau and Mr. Narongpon Thongsang, Meteorologist, Southern Meteorological Center (East Coast), Thai Meteorological Department (TMD) had participated in the Typhoon Committee Research Fellowship Scheme for 2016 which was held in the National Typhoon Center (NTC), Jeju, Korea Meteorological Administration (KMA) from 1 to 14 May 2016.



Two TMD's staff attending the Typhoon Committee Research Fellowship Scheme for 2016, from left, Mr. Narongpon Thongsang and Mr. Boonthum Tanglumlead, the 2nd person from right. (There was three participants undertaking the programme: Thailand and the Philippines)



The trainees listened to the annual report before tropical storm season, NTC, Jeju.



The three trainees were listening to the using of TAPS software operations and products.



Certificates of achievement were presented to the trainees after completing the course at NTC, Jeju.



Visiting Satellite Station Center, Seoul, KMA.



Listening to Knowledge Management on Telecommunications System of KMA.

The ESCAP/WMO Typhoon Committee Newsletter

is published in English by the Typhoon Committee Secretariat

Avenida 5 de Outubro, Coloane, Macau-China
Phone: +853 88010531
Fax: +853 88010530
Email: info@typhooncommittee.org

The newsletter is available on request to the Editor at the above address
Editor: Yu Jixin, Secretary of TC

Staff Members:
Clarence Fong • Meteorologist
Liu Jinping • Hydrologist
Barrie Lei • DRR Expert
Denise Lau • Senior Secretary
Kou Meng Kit, Lisa • Finance Assistant

