



ESCAP/WMO
Typhoon Committee



VIDEO CONFERENCE

REPORT OF THE
FIFTY-SECOND SESSION
OF TYPHOON COMMITTEE

HOSTED BY HONG KONG, CHINA
06 MARCH 2020

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PART I – DECISIONS OF THE COMMITTEE

1. The Committee decided to:
 - a. Approve Dr. CHENG Cho-ming, Director of the Hong Kong Observatory (HKO), as Chairperson; Mr. SEKITA Yasuo, Director-General of the Japan Meteorological Agency (JMA) as Vice-Chairperson and Mr. Christopher BRENCHLEY, Director, Weather Forecast Office, Regional Specialized Meteorological Center (RSMC) Honolulu as Chairperson of the Drafting Committee.
 - b. Approve the recommendations submitted by Working Group on Meteorology (WGM) as expressed in paragraph 13.
 - c. Approve the recommendations submitted by Working Group on Hydrology (WGH) as expressed in paragraph 14.
 - d. Approve the recommendations submitted by Working Group on Disaster Risk Reduction (WGDRR) as expressed in paragraph 15.
 - e. Approve the recommendations submitted by Training and Research Coordination Group (TRCG) as expressed in paragraph 16.
 - f. Approve the recommendations submitted by TCS as expressed in paragraph 17.
 - g. Approve the recommendations submitted by Advisory Working Group (AWG) as expressed in paragraph 18.
 - h. Approve the 2020/2021 Budget as presented below (see **Appendix VI** for detail):

	Apr-Dec2020/ Jan-Mar2021
By Group	Proposed
TCS	34,000.00
ALL WGS (IWS ONLY)	69,000.00
TRCG	28,000.00
WGM	44,000.00
WGH	25,000.00
WGDRR	30,000.00
TOTAL	230,000.00
<i>Plus</i>	
Special Request Budget for WGs	22,000.00
Total	22,000.00
Total Proposed Budget plus Special Request Budget in 2020/2021	252,000.00

- i. Accept the kind offer of Viet Nam to host the 15th IWS in 2020. The final date and place will be confirmed in due course by Viet Nam and later communicated to TCS.
- j. Accept the kind offer of Japan to host the 53rd Session of the Committee in Okinawa and the proposed date is from 23 to 26 February 2021.

PART II – PROCEEDINGS OF THE COMMITTEE

I. ORGANIZATION OF THE VIDEO CONFERENCE (VC)

2. Owing to the worldwide health emergency by COVID-19, the 52nd Session of the ESCAP/WMO Typhoon Committee (TC52) originally scheduled for 25-28 February 2020 was decided to be postponed after consultation with the Chairpersons of the Committee and AWG members and agreement by TC Members.
3. As a result of the decision to postpone TC52, the AWG was tasked to recommend alternative arrangements and recommended a two-stage approach to complete the objectives of the TC52. The first stage is to identify, discuss, and approve time-critical agenda items. The second stage will be rescheduling the face to face Session of TC52.
4. A video conference (VC) hosted by Hong Kong, China was then scheduled on 6 March 2020 with the time-critical agenda items to be approved by the Committee.

Opening of the Session (agenda item 1)

5. The opening ceremony of the Session began at 10:30 am on Friday, 6 March 2020 (Hong Kong Time). Dr. C. M. CHENG from the Hong Kong Observatory (HKO) presided at the opening.
6. The VC was attended by 46 participants from 12 of 14 Members of the Typhoon Committee, namely: China; Hong Kong, China; Japan; Lao People's Democratic Republic (Lao PDR); Macao, China; Malaysia; the Philippines; Republic of Korea; Singapore; Thailand; United States of America (USA); and the Socialist Republic of Viet Nam. Representatives of United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), World Meteorological Organization (WMO), and Typhoon Committee Secretariat (TCS) also attended the VC. The List of participants can be consulted in **Appendix I**.

II. ELECTION OF OFFICERS (agenda item 2)

7. Dr. C. M. CHENG, Director of HKO, was elected Chairperson and Mr. SEKITA Yasuo, Director-General of the JMA was elected Vice-Chairperson of the Committee.
8. Mr. Christopher BRENCHLEY, Director, Weather Forecast Office RSMC Honolulu, was elected Chairperson of the Drafting Committee.

III. ADOPTION OF THE AGENDA FOR THE VC (agenda item 3)

9. The Committee adopted the agenda for the VC. Other items of the TC52 agenda will be presented during the face to face Session later. (**Appendix II**)

IV. REPORTS OF TC WORKING GROUPS AND TRCG (agenda item 4)

10. To condense the VC, the Working Groups were encouraged to present only the recommendations during the VC. Full reports of the Working Groups on Meteorology, Hydrology, Disaster Risk Reduction and TRCG, respectively, can be consulted in **Appendix III**.
11. Parallel sessions of the Working Groups on Meteorology, Hydrology and Disaster Risk Reduction were convened during the 14th IWS to review progress of work during the past year, identify priorities for cooperation and make recommendations to the Committee.
12. The recommendations of the parallel sessions of the three Working Groups and the recommendations from TRCG were reported to the VC Members in the following sections.

4.1. Meteorological Component

RECOMMENDATIONS OF WGM

13. The WGM made the following recommendations:
 - a) To request KMA to continue to provide seasonal typhoon outlook information for TC Members with verification of summer and fall outlook and performance of the four statistical and dynamical models.
 - b) To request CMA to encourage TC Members to join the Collaborative Discussion (CoDi) Forum for real-time typhoon discussion and information exchange.
 - c) To request STI to publish the TCRR Journal on a quarterly basis in 2020, and to improve the editorial procedure and Journal's influence.
 - d) To request KMA to continue to provide technology transfer of the TOS for interested Members, and to package the modules for transfer in steps.
 - e) To request STI to continue the evaluation of performance of tropical cyclone forecast in western North Pacific in 2020, and to continue the development of the new TC forecast and verification website.
 - f) To request JMA to further develop tropical cyclone genesis guidance using early Dvorak Analysis (EDA) and global ensemble.
 - g) To request CMA to continue improving the TRAMS-V3.0 (Tropical Region Atmospheric Model System) including model techniques, 4dvar data assimilation and typhoon ensemble forecasting.
 - h) To request JMA to further refine quality control techniques applied to the participants' radar networks to improve their quality of radar composites, and to implement and refine Malaysian Meteorological Department (MMD) and Thailand Meteorological Department (TMD)'s QPE calibration using rain-gauges.
 - i) To request JMA to support applicants to join the experimental regional radar data exchange in the future, and to share the progress with RA II/V WIGOS radar project in Southeast Asia.

- j) To request JMA to hold a technical meeting on weather radar network for Southeast Asia to organize knowledge about previous activities, and to compose a user's guide on QPE among JMA, MMD and TMD.
- k) To request MMD and HKO to composite radar reflectivity from multiple radars, to retrieve radar reflectivity from satellite data using AI, and to blend the data to perform nowcasting.
- l) To request JMA to upgrade the storm surge model to use finite volume method (FVM) with an unstructured triangular grid to increase the grid resolution and expand the model domain, and to increase the number of multi-scenario predictions using whole members of Ensemble Prediction System (EPS).
- m) To request STI and HKO to continue field campaigns with new instruments, and to collect and share the field observation and research data.
- n) To request STI and HKO to continue demonstration research on tropical cyclone intensity change in conjunction with WMO/WWRP and its relevant projects.
- o) To request JMA to improve Rapidly Developing Cumulus Area (RDCA) algorithm through the joint development by JMA and MMD, and to provide support for development of RDCA by Meteorological Service Singapore (MSS), TMD and Viet Nam Meteorological and Hydrological Administration (VNMHA).
- p) To request CMA to enlarge Standard Dvorak Technique analysis with more samples and to include more agencies into parallel analysis.
- q) To request CMA to organize a seminar with experts from CMA, JMA, KMA, HKO, NOAA and TCS to facilitate better understanding of satellite sources and identify challenges in narrowing the gaps between analyses by different authorities.
- r) To request JMA to support AOP7 of WGH through providing NWP model data to International Centre for Water Hazard and Risk Management under the auspices of UNESCO (ICHARM), and to continue sharing knowledge and experience on increasing government awareness including the appropriate use of products.
- s) To request MMD to coordinate with Chairs of WGM and TRCG and JMA to host the workshop on typhoon forecasting techniques & WGM projects progress review in Malaysia. To also request TRCG to assist in arranging speakers and program for the workshop.
- t) To request TCS send "Commendation letter" to the expert team of TC-AR3.
- u) To encourage coordinators of the action plans to submit the outcome (research paper) to TCRR.
- v) To endorse the proposed action plans in 2020 (including 5 POPs, 9 AOPs and 1 PP) as listed in Annex II of Appendix III – Summary Report for the WGM Parallel Meeting at the 14th IWS, which summarizes the above recommendations with additional action items.
- w) To endorse the WGM budget request included in the budget proposal to be submitted by AWG for TC's approval.

4.2. Hydrological Component

RECOMMENDATIONS OF WGH

14. On the basis of the outcomes of 8th WGH working meeting and the discussion at the Parallel Session of 14th IWS and subsequent discussion, the WGH made the following recommendations:
- a) To request US\$25,000 from TCTF in total for supporting overall WGH activities for 2020 calendar year.
 - b) To approve the proposal of the project on Knowledge Sharing on Storm Surge Inundation Modeling by WFO Guam as one of AOPs of WGH.
 - c) To request China to extend the project on OSUFFIM to the year of 2022 for providing continual technical support to Members.
 - d) To thank Republic of Korea for hosting WGH 8th Working Meeting in Seoul from 15 to 18 October, 2019.
 - e) To request Japan to host WGH 9th working meeting with funding support in conjunction with the 4th Asia Pacific Water Summit to be held in Kumamoto, Japan in October 2020.
 - f) To request HRFCO to continue maintaining and operating the WGH webpage for effective sharing information among WGH members with support from KICT and TCS.
 - g) To appoint the focal point of WGH, Dr. Hyeongyo JEONG, the Republic of Korea, as the liaison to PTC and WMO RA II for WGH of the Committee for enhancing hydrological cooperation between TC and other regional bodies.
 - h) To continue focusing on improving the ability to forecast hydrological phenomena and provide measures for the effectiveness of the improvements.

4.3. Disaster Risk Reduction Component

RECOMMENDATIONS OF WGDRR

15. On the basis of the conclusion of discussion and deliberations, the WGDRR made the following recommendations:
- a) As the Director General of NDMI has been changed and Genevieve C. Miller (USA) will retire the role of Vice Chair. Working Group on DRR has to reappoint the Chairpersons. After discussion at the meeting, the recommendation for reappointment of WGDRR Chairpersons is as follows:

Chair: Mr. Sang Kwon LEE (New Director General of NDMI)
Vice Chairs: Mr. Marcus AYDLETT (USA) and Dr. Yuntae KIM (NDMI)
 - b) To request Hong Kong, China to conduct the Seminar for TC Crowd-sourcing high density non-conventional weather data
 - c) To request NDMI to organize the team to the selected member for the project of capacity building and knowledge sharing in DRR

- d) To request STI, China to continue conducting the research fellowship of the project of benefited evaluation of typhoon disaster prevention and preparedness for the interested TC Members.
- e) To request Hong Kong, China to continue providing a video related to typhoon disasters and translate it into English version (voiceover and subtitles) for Members to use on public education on DRR.
- f) To request NDMI, Republic of Korea to continue supporting and hosting the 15th WGDRR Annual Workshop in 2020 in ROK.
- g) To request NDMI to continue supporting the establishment and improvement of the early warning and alert systems related to typhoon disaster in the participating members.
- h) To encourage the Members to share information related to DRR on the forum established on TC Website.
- i) To request the committee to approve the proposed projects and related budget in 2020.

4.4. Training and Research Coordination Group (TRCG)

RECOMMENDATIONS OF TRCG:

- 16. On the basis of the conclusions reached by the deliberation of Members, the TRCG made the following recommendations:
 - a) To request Members to confirm their respective focal points as members of TRCG and update the list of resource persons as appropriate.
 - b) To endorse the priority training and research areas as proposed in TRCG Report 2019.
 - c) To endorse the proposal of increasing the funding support for the RSMC Tokyo Training Attachment from US\$10,000 to US\$11,000 and for the budget of the Roving Seminar from US\$16,000 to US\$17,000, starting from 2020.
 - d) To endorse the TRCG AOP 2020 (including the first quarter of 2021) including the hosting of the roving seminar under the support of TCTF and other budget requests which are included in the budget proposal to be submitted by AWG.

V. REPORTS OF THE TCS AND AWG (agenda item 5)

5.1 Recommendations of TCS (Appendix IV)

- 17. Based on the experience of routine operation in 2019 and in the past years, and considering needs and possibility, TCS made the following recommendations to TC 52nd Session for consideration:
 - a) To allocate US\$29,000 from TCTF for supporting overall TCS activities; US\$3,000 for supporting IWS hosting in 2020 and US\$2000 for IWS related activities and special budget of US\$10,000 for TCS staff to attend the face to face portion of the TC52.
 - b) To express appreciations to Members for their contributions to the Typhoon Committee Trust Fund and in-kind contributions, and encourage Members to continue to support activities of the Committee.

- c) To thank the Government of Macao, China for its strong support to TCS in the past years, and for its cooperating to renew and implement the Agreement between the Government of the Macao Special Administrative Region of the People's Republic of China and the ESCAP/WMO Typhoon Committee regarding Administrative, Financial and Related Arrangements for the Typhoon Committee Secretariat.
- d) To thank Project Manager Mr. TOM Evans, Members of TC/PTC related for their efforts and cooperation on implementation of SSOP II project.

5.2 Recommendations of AWG (Appendix V)

- 18. The AWG made the following recommendations:
 - a) To recognize and thank Guam, USA for their exceptional effort in hosting the 14th Integrated Workshop in Guam, USA.
 - b) To take note of the progress and recommendations made in the planning and implementation of TC activities, in 2020-2021, including preparation of the TCTF budget for 2020-2021.
- 19. The Committee took note that Dr. Lei XIAOTU submitted a proposal for the Collaborative Research Centre and the AWG was requested to consider including an agenda item for reviewing and discussing the proposal during the face to face portion of the Session.

VI. SUPPORT REQUIRED FOR THE COMMITTEE'S PROGRAMME (agenda item 6)

6.1. Approval of Typhoon Committee Trust Fund (TCTF) 2020/2021 Budget

- 20. The Committee took note of the reallocation from normal and special budget by WG's, which had been approved by Chairperson of Typhoon Committee and Secretary of Typhoon Committee.
- 21. The Committee discussed and approved the budget for 2020/2021 (**Appendix VI**).

VII. DATE AND PLACE OF THE 15TH IWS (agenda 7)

- 22. The Committee was informed that, Vietnam would host the 15th IWS back-to-back with the Roving Seminar in November 2020. The final date and place will be confirmed by Viet Nam in April/May 2020 and communicated to TCS.

VIII. DATE AND PLACE OF THE 53rd TC SESSION (agenda 8)

- 23. The Committee was informed that Japan would host the 53rd Session in Okinawa. The proposed date is from 23 to 26 February 2021.

IX. CLOSURE OF THE VC SESSION

24. The Committee was informed that Hong Kong, China had reaffirmed to host the face-to-face portion of the TC52 which is now scheduled to be held in Hong Kong, China from 27-29 May 2020. The Committee expressed its concerns on the uncertain situation of the COVID-19 emergency and travel restrictions imposed by national authorities, and at the same time requested TCS to circulate a letter to invite Members to attend the face-to-face portion of the TC52.
25. The Committee was also informed that HKO and TCS were working closely on the preparations of the face-to-face portion of the TC52 Session. If, due to unforeseen and unavoidable circumstances, the Members of the Committee are unable to join the postponed TC52 or the required quorum is unable to be reached, the AWG will explore further options such as merging the face-to-face portion of the TC52 at reduced scale with the 15th IWS or conducting it with VC again.
26. The TCS informed delegates that the report of the VC Session will be distributed to Members for approval by the end of March 2020.
27. The VC Session was closed by the Chairperson at 11:55 am, 6 March 2020 (Hong Kong Time).