**APPENDIX XV**

**TCS ACTIVITIES REPORT 2023**

1. **Introduction**

In 2023, TCS made great efforts on maintaining the Committee mechanism running properly for fulfilling the decisions of 55th Session of the Committee with the strong support and kind cooperation from all Members, TC Chairs, AWG, Working Groups (WGs), ESCAP and WMO. TCS endeavored to carry out its functions successfully.

1. **Execution of the Decisions of the Committee**

TCS played a key role in coordinating and supporting the activities of the AWG, WGs, and Members to implement the decisions made during the 55th Session of the Committee. Specifically, TCS facilitated the arrangements for the election of the new TC Secretary. Additionally, TCS provided support for coordination activities within the various working groups.

* The newly appointed Secretary Dr. Yihong DUAN and the former Secretary Mr. Jixin YU had a smooth transition, The Secretariat of the Typhoon Committee operates stably.
* The implementation of WGM 4 POPs, 10 AOPs and 2PP, all 9 on-going AOPs of WGH and 6 AOPs of WGDRR AOPs in 2023
* 18th IWS/4th TRCG Forum held successfully in ESCAP United Nations Conference Center, Bangkok, Thailand
* ESCAP/WMO Typhoon Committee 18th IWS/4th TRCG Forum was held successfully at the ESCAP United Nations Conference Center in Bangkok, Thailand on 28 November to 1 December 2023. A Total 123 experts from 10 TC Members, international organizations and observers participated in the conference.
* The theme of the 4th TRCG Forum was "Towards a Typhoon Resilient Society", which was divided into three topics: (1) Artificial intelligence for tropical cyclones related applications, (2) Special target observation over the western North Pacific and (3) Impact based forecasting for tropical cyclones. Nine experts from National Meteorological and Hydrological Services, Universities, Research Institutes and Enterprises gave invited talk on the above three topics. The forum also set up breakout group discussion sessions. The theme of 18th IWS was “Early Warnings for All Through Enhancement of Typhoon Standard Operating Procedures (SOP)",
* TCTF Management. The Work Plan-2023/2024 was adjusted timely according to the changes of AOPs’ implementation plan made by the working groups to meet the need of WMO financial rules.
* TCS, in collaboration with WGs’ Chairpersons and under the guidance of AWG, took the lead and coordinated the review and analysis of the TC AOP implementation questionnaire, producing fruitful findings (details available in XX). These findings are expected to contribute to the enhancement and improvement of AOP implementation in the future.
* **TC 56th Annual Session.** In cooperation with the **Met Malaysia Department**, TCS was involved in the preparation of current Session, including Tentative Agenda, Annotated Tentative Agenda, Programme and Working Documents.

1. **Coordination and Participation in the Activities of WGs 2023**

* TCS provided secretariat support and coordination for hosting of the following activities:
* The Roving Seminar 2023 with the theme “Advances in Tropical Cyclone Monitoring and Prediction for Impact-based Forecasting” was held in hybrid mode in Hai Noi, Viet Nam from 28 to 30 June 2023 with 9 speakers and 39 participants from 6 TC Members.
* 6th Annual Meeting of WGM which was held in Shanghai from 31 October to 2 November 2023;
* 12th Annual Meeting of WGH which was held on 20-22 September 2023 and attended by more than 60 participants from TC Members and regional organizations.
* 18th Annual Meeting of the Working Group DRR which was held on 13 -15 June 2023 in Ulsan, Republic of Korea. Around 30 participants. from members and representatives of ESCAP, WMO and other organizations
* TC AWG Meetings held on-line or in-person.
* RSMC Forecaster’s Training Attachment held online from 11 to 13 January 2023 with 51 participants from 8 TC Members
* Research Fellowships hosted by Hong Kong, China and Republic of Korea were offered to TC Members (China, Philippines and Thailand) in 2023
* The training course for WGH AOP1, AOP4, AOP5, AOP8.
* WGM, WGH and WGDRR Parallel Session at the 18th IWS/4th TRCG Forum
* Coordinated the hosting of the knowledge Sharing program in the Philippines and Lao PDR in the 25th and 27th April 2023.
* Coordinated the setting up of the Early Warning Alert System in Danao and Argao in Philippines and the educational program in September 2023.
* Coordinated the production of the DRR video and uploaded to TC website for sharing with the TC members on disaster preparedness education.
* Coordinated the production of the DRR video and uploaded to TC website for sharing with the TC members on disaster preparedness education.
* Served as an invited guest and participated with presentation on “Hydro-meteorological Data Quality Control for Typhoon-related Hazard Early Warning” in the Satellite Event of United Nations World Data Forum on [Dealing with Data Dilemmas](https://unwdf-macau.org/): Towards a human-centered systems approach to sustainable data and digital technology development, which was organized by United Nations University (UNU), Macao, SAR China on 25 April 2023.
* Served as an invited guest, participated with presentation on “Regional Open Science Cooperation for Managing Risk in UN ESCAP/WMO Typhoon Committee” in the [International Symposium on Open Science Clouds (ISOSC)](https://codata.org/international-symposium-on-open-science-cloud-2023/) which was took place on 4 to 6 September 2023 in Informationization Plaza of [Chinese Academy of Sciences](https://www.bing.com/ck/a?!&&p=1bb5cec0ede0293bJmltdHM9MTcwMzU0ODgwMCZpZ3VpZD0zMWM1ZjU3Mi1lZDE3LTZjZGMtMjcwMy1lNGViZWNkNzZkMmQmaW5zaWQ9NTI1NA&ptn=3&ver=2&hsh=3&fclid=31c5f572-ed17-6cdc-2703-e4ebecd76d2d&psq=%e4%b8%ad%e5%9b%bd%e7%a7%91%e5%ad%a6%e9%99%a2CAS+&u=a1aHR0cHM6Ly9lbmdsaXNoLmNhcy5jbi8&ntb=1) (CAS), Beijing, China.
* Issued one articles of “Review of Big-data and AI Application in Typhoon-related Disaster Risk Early Warning in Typhoon Committee Region” on TC Journal Tropical Cyclone Research and Review (TCRR).
* Participated in the Third China-ASEAN Meteorological Forum on 15 September 2023 in Nanning.
* Participated in the 79th Session of ESCAP held from 15 to 19 May 2023 at the United Nations Conference Centre in Bangkok (online)

1. **The Internal Capacity Building of TCS**

In order to further strengthen the capacity on the provision of secretariat support and service to the Members, and to further enhance the visibility of the Committee, TCS took a series of the efforts on its internal capacity building, including:

* Enhance high-level visits and communication efforts to secure increased support from the host country for TCS:
* Engaged in a meeting and communication with Mr. HUANG Liuquan, the Deputy Head of the Liaison Office of the Central Government in Macao SAR China on 19 June 2023.
* Interacted in a meeting and discussions with Mr. SUN Xiangyang, the Vice Commissioner of the Ministry of Foreign Affairs of the People’s Republic of China in Macao SAR on 6 July 2023.
* Extended a courtesy visit to Mr. HO Iat-seng, the Chief Executive of Macao SAR China on 30 October 2023.
* High-level engagements visit with organizations:
* To Ms. Tiziana Bonapace, Director, Information and Communications Technology and Disaster Risk Reduction Division, ESCAP on 29 September 2023
* To Dr. PENG Taoyong, Head, DRR Technical Development Division, Services Department, WMO on 6 September 2023 in WMO headquarter
* Visits to TC Members to enhance cooperation:
* Visited Dr. Weng Kun LEONG, TC Chair and the Director of SMG, Macao, China on 6 June 2023.Visited Dr. YOO Hee Dong, the Administrator of KMA, Republic of Korea on 12 June 2023.
* Visited Prof. HAN Hong Thai, the Administrator of VNMHA, Vietnam on 27 June 2023
* Visited Dr. CHEN Zhenlin, the Administrator of CMA, China on 4 July 2023.
* Visited Dr, Pak Wai CHAN，the Director of HKO, Hong Kong, China on 19 October 2023.
* Visited Ms. Kornrawer SITTHICHIVAPAK, the Director General of TMD, Thailand on 26 October 2023.
* Visited Dr. LIU Zhiyu, the Deputy Director General of Information Center (Hydrological Information and Forecasting Center) of the Ministry of Water Resources, China on 3 July 2023.
* During the Third China-ASEAN Meteorological Forum, TC Secretary met with Mr. Muhammad Helmi ABDULLAH, TC Vice Chair, Director General of Met Malaysia, Malaysia on 16 September 2023 in Nanning, China.

These visits and communications have deepened the understanding of the needs of TC Members. This understanding is crucial for enhancing the services provided by TCS to its Members.

* Efforts on resource mobilization
* Mobilized funding contribution from Chinese Academy of Meteorological Sciences (CAMS), China to support TCS experts, on behalf of TCS, participating in the international conference, technical seminar and working meeting of WGM.
* Communicated with ESCAP, WMO, CMA, HKO, SMG and associated organizations on available funding contribution to carry out the activities of the Committee.
* Upgrading TC Website

TCS finalized the revamp the TC website, including the enhancement of the newsletter section to allow Members to provide more up-to-date news. The revamped website will incorporate sections for Members News, the Working Group pages featuring the chairpersonship, and a section for upcoming Events. The new design will be aligned with the format of ESCAP and WMO Members News.

1. **Other Activities**

* TCS welcomed the following guests to its premises:
* The Director, Ms. Tiziana BONAPACE, Information and Communications Technology and Disaster Risk Reduction Division, ESCAP on 25 April 2023;
* The Director, Prof. Shahbaz KHAN, Representative of UNESCO Regional Office for East Asia on 13 December 2023;
* The Director, Dr. Pak Wai CHAN, HKO, Hong Kong, China on 8 June 2023;
* The Director, Dr. Weng Kun LEONG, SMG, Macao, China on 8 June 2023;
* The Administrator, Dr. Zhenlin CHEN, CMA on 12 September 2023;
* The Director General, Mr. Xiaofeng FU, the Ministry of Science and Technology (MOST), China on 18 August 2023;
* The Director General, Mr. Shenbiao HUANG, the high-level Officer of the Liaison Office of the Central Government in Macao SAR China on 18 August 2023.
* International Internship
* TCS accepted 5 interns (including on-line internship for Mr. Younhun OH, Ms. Yeeun SEONG, and Ms. Wonjin CHO; on-site internship for Ms. Jeonghye LEE and Mr. Gyeongmin Park) from Korea Meteorological Administration (KMA) in 2023.
* TCS upgraded the roles of internship in order to provide the equal opportunity to all Members and community.

1. **Conclusions**

* Establishing a proficient and influential Secretariat is vital for the Committee to carry out its annual decisions, coordinate WG and Member activities, and achieve its Strategic Plan goals. TCS, as the executive body, is resolute in implementing measures to enhance its internal capacity, cultivating professional competence and efficiency with the active participation in regional activities, and collaboration with regional/international organizations, among other aspects.
* Resource mobilization is a key focus in the Committee's Strategic Plans. Since the 44th Session in Hangzhou in 2012, TCS collaborates with WMO and ESCAP for resource mobilization activities. The latest Strategic Plans (2022-2026) emphasize facilitating resource mobilization with support from international organizations and funding agencies. TCS will continue efforts to mobilize resources for the Committee's activities.
* The latest Strategic Plans (2022-2026) highlight that for the Committee to achieve its mission, it should focus on the effectiveness and efficiency of its activities, including monitoring and evaluating Annual Operating Plans (AOPs). The review of the TC AOP implementation questionnaire produced valuable findings, benefiting future enhancements in AOP implementation. TCS is committed to improving the effectiveness, efficiency, and international cooperation of the Committee.

1. **Suggestions**

Based on the experience of routine operation in 2023 and in the past years, and considering needs and potential developments, TCS made the following suggestions to TC 56th Session for consideration:

* To allocate US$33,500 from TCTF for supporting overall TCS activities; US$5,000 for supporting IWS and related activities.
* Supporting TCS to enhance resource mobilization efforts.
* Promoting internship opportunities for TC Members.
* Request WGs, in collaboration with TCS, to enhance the effectiveness and efficiency of their activities by monitoring and evaluating their initiatives, including Annual Operating Plans (AOPs), aligning with the stated mission in the Strategic Plans 2022-2026 and UN Early Warning for All initiative.
* Expressing gratitude to Members for their contributions to the Typhoon Committee Trust Fund and in-kind donations, while encouraging ongoing support for the Committee's activities.
* To thanks Macao Government, through SMG, for supporting of TCS in the past years, and thanks for increment of the endowment fund to TCS and for cooperating to 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.