

**ESCAP/WMO Typhoon Committee**  
**The Fifty-eighth Session**  
**10-13 March 2026**  
**Jeju Island, Republic of Korea**

FOR PARTICIPANTS ONLY  
INF/TC.58/19.2  
10 January 2026  
ENGLISH ONLY

**IN-KIND CONTRIBUTION**  
**FROM TYPHOON COMMITTEE MEMBERS**

**(Item 19 of Provisional Agenda – In-kind Contribution)**

*(Submitted by Typhoon Committee Secretariat)*

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**ACTION REQUIRED:**

The Committee is invited:

To take note of the In-kind contributions from the Members

**APPENDICES:**

- 1) DRAFT TEXT FOR INCLUSION AT SESSION REPORT
- 2) SUMMARY AND LIST OF IN-KIND CONTRIBUTION FROM TYPHOON COMMITTEE MEMBERS

## **APPENDIX A:**

### **DRAFT TEXT FOR INCLUSION IN THE SESSION REPORT**

#### **REPORT OF TYPHOON COMMITTEE SECRETARIAT**

19.2.1 The Committee expressed appreciation for the in-kind contributions from some Members, namely China; Hong Kong, China; Japan; [Macao, China](#); Malaysia; Republic of Korea; Thailand, USA and Viet Nam. The Committee also invited the other Members to report their in-kind contributions, quantifying the corresponding unit of Man-months that have consumed in actions related to TCTF projects. **(Appendix xxx)**.

19.2.2 The Committee also expressed the importance of having in-kind contributions with correspondence values.

*(Additional text to be added in the light of discussion on this item)*

## APPENDIX B:

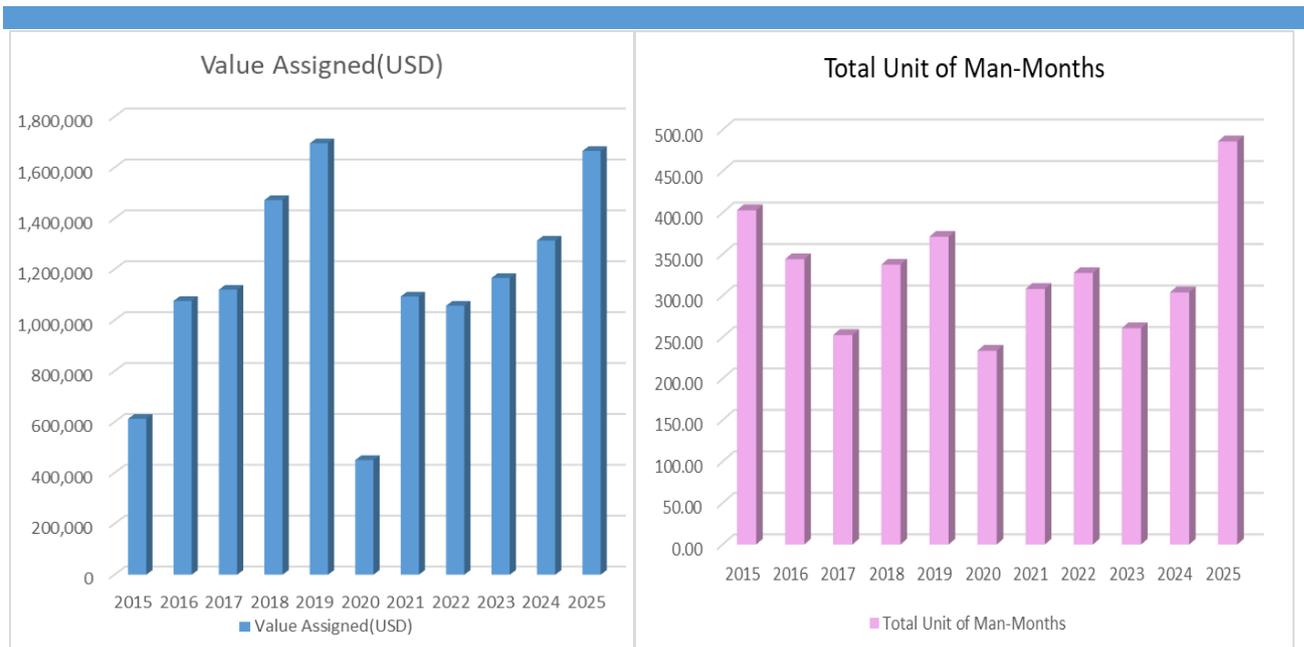
### IN-KIND CONTRIBUTION FROM TYPHOON COMMITTEE MEMBERS FOR 2025

#### Total In-Kind Contributions for 2025

<b>Total Value Assigned (USD):</b>	1,665,587.98
<b>Total Unit of Man-Months:</b>	486.05

Member	Unit of Man-Months	Value Assigned (USD)	Remarks
China	192.27	806,840.32	
Hong Kong, China	6.80	7,000.00	
Japan	55.05	46,118.54	
Macao, China	18.00	531,961.40	
Malaysia	14.00	6,200.00	
Philippines	39.04	77,669.92	
Republic of Korea	57.95	157,000.00	
Thailand	93.00	3,060.00	
USA	4.08	27,437.80	
Viet Nam	5.86	2,300.00	
<b>Total :</b>	<b>486.05</b>	<b>1,665,587.98</b>	

#### Annually In-Kind Contributions



## In-Kind Contributions for 2025

Member Name: China

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
WGH-AOP4-Review on specifications for hydrological information and forecasting related activities	8.00	9,225.40	Preparation of project workshop in Yunnan Dehong including experts transportation and travel expenses
WGH-AOP5-Application Study on New Generation of Integrated Micro-siphon Rain Gauge in TC Members	5.00	5,816.50	Preparation of project workshop in Yunnan Dehong including facilities, venue rental and experts transportation expenses
WGH-AOP8-Training Course on Hydrological Monitoring and Flood Management for Developing Countries	20.00	71,326.70	Launch annual face-to-face training course with TC WGH activities and bring TC Members Malaysia, and Laos benefits from the training programme including facilitates, expertise and funding resources.
Support to attend 57th session	4.00	6,419.40	Preparation of the documents, paperwork and travel expenses
Support to attend 14th WGH working meeting	6.00	14,265.30	Preparation of the documents, paperwork and travel expenses
Support to attend 20th Integrated Workshop (IWS)	7.00	17,118.40	Preparation of the documents, paperwork and travel expenses
Nanjing University of Information Science & Technology	9.87	71,608.20	Training in the Typhoon Committee Training Centre (WMO RTC Nanjing)
National Meteorological Centre	2.00	11,700.00	57-session IWS-20 Member Report
Shanghai Meteorological Service	48.00	71,000.00	Publication of Tropical Cyclone Research and Review Vietnam expert visit AP-TCRC Thailand officer's visit to STI
WMO-RTC Beijing	52.00	471,060.42	10th International Training Course on Tropical Cyclone Monitoring and Forecasting (WMO RTC-Beijing and CMA Guangdong Meteorological Service) International Training Activities (WMO RTC-Beijing)
Guangdong Meteorological Service	30.40	57,300.00	TCS expert's visit Thailand officer's visit Verification of tropical cyclone operational forecast Publication of Tropical Cyclone Research and Review Training in the Typhoon Committee Training Centre (WMO RTC Nanjing) POP3 Tropical Cyclone Research and Review Tropical Cyclone Ensemble Forecast Information Website The ESCAP/WMO Typhoon Committee Roving Seminar 2025
Total :	192.27	806,840.32	

## In-Kind Contributions for 2025

Member Name: Hong Kong, China

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
<b>WGM - Verification of tropical cyclone operational forecast (POP3)</b>	0.10	-	- Extracted raw data of TC forecast tracks issued by the Hong Kong Observatory for verification
<b>WGM - Radar nowcasting based on RaINS/SWIRLS (AOP4)</b>	0.10	-	- Conducted training on nowcast technique, SWIRLS development and RSMC for Nowcasting during the RaINS workshop hosted by the Malaysian Meteorological Department (MET Malaysia)
<b>WGM - Contribution for the Experiment on Typhoon Intensity Change in Coastal Area (EXOTICCA-II) (AOP6)</b>	0.20	-	- Conducted dropsonde flights, dissemination of real-time observations and supported collaborative activities - Participate in the "Scientific Experiment on EXOTICCA 2025 and Typhoon Observation International Seminar" on 26 - 27 July 2025 in Hainan, China
<b>WGM - Promoting Technical Exchange of AI Applications in Tropical Cyclone Analysis and Forecasting (AOP13)</b>	3.00	2,000.00	- Coordinated the activities of AOP13. - Developed and operated a Data Exchange Portal, which provides the necessary infrastructure for data exchange and archival of TC forecast tracks from a number of AI models.
<b>WGDRR - Making Education Videos related to DRR (AOP6)</b>	0.50	-	- Provided support on adding English subtitles and voice over on one of the Hong Kong Observatory educational videos "Cool Met Stuff" on tropical cyclone-related threats for sharing with Typhoon Committee Members. The finalized video had been uploaded on Typhoon Committee website as a WG DRR educational video in Q2 2025.
<b>TRCG - Typhoon Committee Research Fellowship</b>	0.80	5,000.00	- Provided support on planning of the project and related logistic matters with TCS - Rendered support to the awarded fellow from MET Malaysia to conduct the research project in Q1/2026, reviewed research findings and conducted follow-up activities
<b>Video Conference Support to AWG meetings</b>	0.10	-	- Provided support on hosting the AWS meetings via video conference
<b>Hosting of the 8th Annual Meeting of WGM in 2025</b>	2.00	-	- Coordinated the physical and virtual hosting of the WGM meeting on 21-22 October 2025, handling all venue logistics and technical support
<b>Total :</b>	<b>6.80</b>	<b>7,000</b>	

## In-Kind Contributions for 2025

Member Name: Japan

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
Maintaining the communication platform	1.00	1,000.00	Maintenance of the platform
Support for ESCAP/WMO Typhoon Committee RSMC-Tokyo attachment training course	3.00	6,500.00	Organizing RSMC attachment training 2025 Preparation for RSMC attachment training 2026 Invitation of lecturers out of JMA
Publication of "Annual Report on the Activities of the RSMC Tokyo - Typhoon Center"	3.00	200.00	Edition, coordination and proofreading
Publication of "Technical Review"	2.00	200.00	Coordination and proofreading
Development and maintenance of the JMA Numerical Typhoon Prediction (NTP) website	12.00	-	Coordination, development, maintenance and replacement
Update of TOM	1.50	-	Coordination
Use of tropical cyclone ensemble forecast in the western North Pacific region	3.00	-	Development of products using ensemble forecast and maintainance of web site
Enhancement of disaster risk reduction against heavy rain in collaboration of AOP#7 of WGH	0.30	-	Coordination with ICHARM regarding data provision on longer-range forecast
Support for the ET-AITC Meeting of TC-WGM	3.00	3,700.00	Coordination, travel expenses and other costs to host the meeting.
Development of regional radar network	4.75	16,700.00	Making arrangements for a weather radar workshop Coordinating the way forward to develop regional radar network Creating a sample regional radar composite map using new Members' domestic radar data Implementing experimental domestic radar composite data exchange
Development and maintenance of the Storm Surge Watch Scheme (SSWS) model and the Wave ENsemble System (WENS)	15.00	-	Development and maintenance of the model and the system
Enhancing utilization of Himawari 8/9 Products	4.00	611.54	Joint development of Himawari-8/9 RDCA products Making arrangements for a technical meeting to be hosted by Japan
Typhoon Committee (incl. TCWGH and IWS)	1.50	17,207.00	Attending TCWGH (4 people) and Integrated Workshop (4 people), operation and organization for conference (Coordination and administrative work related to arranging airline tickets, accommodation, preparation, and communication for representative participant)
Flood Risk Watch Project for Life-saving of AOP6	0.10	-	Finalizing 3L report
Flood Risk Mapping with Ground/Satellite Observation Data of AOP6	0.90	-	Expert web discussion, data gathering, communication, and creating mapping
<b>Total :</b>	<b>55.05</b>	<b>46,118.54</b>	

## In-Kind Contributions for 2025

Member Name: Macao, China

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
Move of the TC Secretariat to new premises	3.00	371,461.40	1. Provided administrative support, and technical support related to the renovation of the new premises; and 2. Responsible for the costs related to the move of the Secretariat to the new premises, including expenses for renovation works, soft furnishings, office furniture, office equipment, and removal expenses from old office to new office
Hosting of the 20th IWS and High-Level Forum	12.00	148,000.00	Handling 4-days Meeting venue and logistics, expenses including accommodation meals and travel of PRs, Experts and participants, paperwork, administrative support, printing, technical support
Support to attend TC57 Session	2.00	7,500.00	Preparation of documents and travel expenses
Attend the AWG meeting	1.00	5,000.00	Preparation of documents and travel expenses
Total :	18.00	531,961.40	

## In-Kind Contributions for 2025

Member Name: Malaysia

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
Participants visit to the Malaysian Meteorological Department (MET Malaysia) for training	2.00	5,000.00	Two participants. Travel expenses, accomodation and meals are fully funded by the Typhoon Committee Trust Fund (TCTF) for a total of USD 5,000
HKO expert talk and discussion at a knowledge sharing session on nowcasting with MET Malaysia	1.00	100.00	One day Technical Sharing Session. HKO provided the training expertise, while logistical expenses for training and presentation facility by video conferencing in Malaysia were borne by MET Malaysia
Lecture on the General Introduction to Nowcasting, RaINS and COM-SWIRLS, Radar-based Nowcast Verification and Skill-Scores, Introduction to Blending Package & Brief Introduction on Fast Artificial Neural Network.	5.00	500.00	Five days of Training Sessions. Training expertise & office workspace provided by MET Malaysia.
Setting up VMWARE virtual machine supplied by MET Malaysia with RaINS, COM-SWIRLS and data pre-installed	1.00	100.00	One day of Training Session. Training expertise & office workspace provided by MET Malaysia.
Practical session on using Quantitative Precipitation Forecast (QPF) package, Verification Package to verify Radar-based Nowcasts, Blending Package to blend NWP (Numerical Weather Prediction) with radar nowcast & COM-SWIRLS to train, blend and visualize satellite and radar data.	4.00	400.00	Four days of Training Sessions. Practical session and training, computation power to run RaINS nowcast are fully provided by MET Malaysia.
Presentation of training outcome, discussions and Q & A with MET Malaysia experts	1.00	100.00	One days of Presentation Session. Presentation facility provided by MET Malaysia.
Total :	14.00	6,200.00	

## In-Kind Contributions for 2025

Member Name: Philippines

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
57th Session of the Typhoon Committee (TC57)	25.73	59,274.76	Time spent of 42-member LOC and expenses for the planning, preparation, and hosting of TC57
Updating of Typhoon Committee Operational Manual (TOM)	1.00	-	Time spent for review and comments to TOM
AOP3: Development of Regional Radar Network	0.42	62.34	Time spent in AOP3 activities and pre-travel expenses of participant to Weather Radar Workshop 2025
AOP4: Radar Nowcasting based on RaINS/SWIRLS	3.80	9,595.95	Time spent in AOP4 activities, funding (equipment outlay, personnel expenses, MOOE) for counterpart R&D project on RaINS/SWIRLS, and pre-travel expenses of 1 participant for Training Attachment of RaINS
AOP7: Enhancing Utilization of Himawari 8/9 Products	3.16	-	Time spent in AOP7 activities and pre-travel expenses of 1 expert to Technical Meeting on Himawari-8/9 RDCA
AOP13: Promoting Technical Exchange of AI Applications in Tropical Cyclone Analysis and Forecasting	3.17	61.88	Time spent in AOP13 activities and pre-travel expenses of 1 expert to First Meeting of WGM AI Expert Team
POP3: Tropical Cyclone Research and Review	0.56	0.00	Time spent of manuscript peer-reviewers
Typhoon Committee Attachment Training at RSMC Tokyo	0.60	60.03	Time spent and pre-travel expenses of participant
20th Typhoon Committee Integrated Workshop and High Level Forum	-	8,554.92	Travel expenses of PH delegation (4 representatives)
Participation to TC meeting (14th WGH, Guam, USA)	0.60	60.03	Time spent and pre-travel expenses of participant
<b>Total :</b>	<b>39.04</b>	<b>77669.92</b>	

## In-Kind Contributions for 2025

Member Name: Republic of Korea

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
[KMA] Improvement of Summer Typhoon Prediction System	4.00	-	Operations and Improvements for Summer Typhoon Prediction System
[KMA] Enhancing GK2A Utilization for Tropical Cyclone	3.00	-	Developing tropical cyclone analysis techniques using GK2A data and MW's water vapor and wind data
[KMA] Tropical Cyclone Monitoring using Drifting Buoys	4.00	-	Conducting drifting buoy observations and real-time data sharing with Members
[HRFCO] Improvement of the Hydrological Data Quality Control System in TC Members based on AI	10.00	35,000.00	Modify the PC-version (stand-alone) computational system with computing engineers and improve the GUI for potential users by applying AI
[HRFCO] Improvement of the Flood Forecasting System in TC Members based on AI	10.00	35,000.00	Modify the PC-version (stand-alone) computational system with computing engineers and improve the GUI for potential users by applying AI
[HRFCO] Applicability determination of the System in four target Members	5.00	10,000.00	Determine the applications of the developed system and collect the users' needs
[HRFCO] Finalization of the user manual and guidelines for WGH AOP2&3	3.00	3,000.00	Finalizing the context of the system manual in English with expenses for editing and narrative review
[HRFCO] Supporting Members for attending in 57th Annual Session and 20IWS	1.00	4,000.00	Expense in round-trip flight and DSA
[NDMI] Hosting the 20th WGDRR Annual Meeting	5.00	44,100.00	Accommodation, Logistics, and Travel Expenses for 20th WGDRR Annual Meeting
[NDMI] Promote International Cooperation on DRR Project	11.20	25,900.00	Study on self-assessment on 2023-2024 DRR project in Philippines
[NDMI] Knowledge Sharing / Capacity Building in DRR	1.75	-	Dispatch 6 Experts for attending the 2025 World Bosai Forum
<b>Total :</b>	<b>57.95</b>	<b>157,000.00</b>	

## In-Kind Contributions for 2025

Member Name: Thailand

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
WGM: AOP3 Development of regional radar network	12.00	-	TMD supported 3 staff to serve as experts team in WGM-AOP3
WGM: AOP7 Enhancing Utilization of Himawari 8/9 Products	12.00	-	TMD supported 1 staff to serve as experts team in WGM-AOP7
WGM: PP1 Utilization of FengYun Satellite for High Frequency Observation of Tropical Cyclone	12.00	-	TMD supported 2 staff to serve as experts team in WGM-PP1
WGH: AOP1 Knowledge Sharing on Storm Surge Inundation Mapping	12.00	-	TMD supported 2 staff to serve as experts team in WGH-AOP1
WGH: AOP7 Flood resilience enhancement through Platform on Water Resilience and Disasters	12.00	-	TMD supported 4 staff to serve as experts team in WGH-AOP7
WGH: AOP7 Flood resilience enhancement through Platform on Water Resilience and Disasters	0.10	1,000.00	ONWR supported 4 staffs and vehicle & accommodation for field survey
WGH: AOP7 Flood resilience enhancement through Platform on Water Resilience and Disasters	12.00	-	ONWR supported staff for the implementation of the AOP7
AOP1: Knowledge Sharing on Storm Surge Inundation Mapping	1.50	20.00	RID supported 1 staff to prepare data for training in Guam.
AOP4: Review and enhancement on specifications for hydrological information and forecasting in TC Members	1.20	10.00	RID supported 1 staff to prepare data for training in China.
AOP:5 Application Study on New Generation of Integrated Microsiphon Rain Gauge in TC Members	1.20	10.00	RID supported 1 staff to prepare data for training in China.
AOP6: Flood Risk Mapping with Ground/Satellite Observation Data	1.00	20.00	RID supported 10 staffs to attend the online training , traveling expence to visit the sites and implementation.
AOP7: Flood resilience enhancement through Platform on Water Resilience and Disasters	10.00	-	RID supported 5 staffs for the implementation of AOP7
14th WGH Meeting	1.50	-	RID supported 1 staffs to attend WGH Meeting in Guam.
20th IWS Meeting and High-Level Forum	4.50	2,000.00	RID supported 2 staffs to attend IWS Meeting in Macau.
<b>Total :</b>	<b>93.00</b>	<b>3,060.00</b>	

## In-Kind Contributions for 2025

Member Name: USA

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
Writing and submitting proposal for WGH AOP 9, SSOPIII	0.25	2,650.00	writing and re-writing the proposal, rewriting and proposal and budget meetings with Tom.
Planning, setting up and hosting WGH 14th Working meeting	0.75	7,950.00	Seeking proposals from venues, room prices, setting up speakers and hosting meeting.
WGH AOP1 research, testing and prepping for training course	0.86	6,351.10	Final iteration of POSSIM developed and implemented for further research and testing
AOP1 Workshop in Guam	0.23	1,698.55	Facilitating and leading the AOP1 training workshop in Guam
WGH AOP1 Post-Training Report	0.05	369.25	
WGH AOP1 Post-Training technical guidance for participating members	0.09	664.65	
WGH AOP1 telemeetings and development coordination	0.02	147.70	
WGH AOP1 Member report contribution	0.05	369.25	
Post-WGH Meeting followups with AOP1 TC members	0.02	147.70	POSSIM technical documentation followups, in addition to troubleshooting new POSSIM bugs
WGH Meeting Facilitation	0.96	7,089.60	All activities related to facilitating and hosting the WGH Annual meeting. JOC coordination, reservations, conference room setup, hybrid mode and IT integration, attendance notes and letters, etc.
Member Report	0.10		
SSOP III prep for LOA	0.05		
Expert Team on multi-hazard early warning and service delivery technical guidance (ET-WSG)	0.05		
Member Report	0.10		
DRR Report/PPT	0.09		
SP Team (Reviews/coordination)	0.41		
<b>Total :</b>	<b>4.08</b>	<b>27,437.80</b>	

## In-Kind Contributions for 2025

Member Name: Viet Nam

Activities Supported	Unit of Man-Months	Value Assigned (USD)	Comments
57th Session of the Typhoon Committee (TC57)	0.20	1,200.00	Time spent and expenses of participant for 1 officer to TC57
TRCG activities	0.40	-	Personnel participating in TRCG's activities - Coordinate the operational plan of TRCG's activities - Virtual Meetings, document reviews and emails
Updating of Typhoon Committee Operational Manual (TOM)	1.00	-	Time spent for review and comments to TOM
AOP7: Enhancing Utilization of Himawari 8/9 Products	3.16	200.00	Time spent in AOP7 activities and pre-travel expenses of 1 expert to Technical Meeting on Himawari-8/9 RDCA
Typhoon Committee Attachment Training at RSMC Tokyo	0.46	200.00	Time spent and pre-travel expenses of participant of 1 forecaster
Typhoon Committee Roving Seminar 2025	0.16	100.00	Time spent and pre-travel expenses of participant of 1 forecaster
World Bosai Forum for Knowledge Sharing and Capacity Building in WGDRR	0.16	200.00	Time spent and pre-travel expenses of participant of 1 expert
20th Annual Meeting of WGDRR	0.16	200.00	Time spent and pre-travel expenses of participant of 1 expert
Meeting of Expert Team on AI Applications in Tropical Cyclone Analysis and Forecasting(ET-AITC)	0.16	200.00	Time spent and pre-travel expenses of participant of 1 expert
Total :	5.86	2,300.00	