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WORKING PAPER

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Agenda Item 4: Regional guidance material

**WC SIGMET ISSUANCE EXPERIENCES AND PRACTICES IN THE
SOUTH AND SOUTHEAST ASIA SIGMET COORDINATION GROUP**

(Presented by Bangladesh, Hong Kong China, India, Indonesia, Maldives,
Myanmar, Nepal and Sri Lanka)

SUMMARY

This paper shares the experience gained and the practices of WC SIGMET Coordination in the South and Southeast Asia SIGMET Coordination Project.

1. INTRODUCTION

1.1 The South and Southeast Asia (SSEA) SIGMET Coordination Project (referred to as “the Project”) kick-started in December 2019 between Indonesia and Sri Lanka under the coordination of the Hong Kong Observatory (HKO). India and Nepal joined as operational members in 2022 and 2023 respectively. The setup and subsequent updates of the Project were reported in [MET/IE WG/18 & MET/S WG/10 – WP/20](#), [MET/S WG/11 – IP/04](#), [MET/S WG/12 – IP/02](#), [MET/S WG/13 – IP/04](#) and [MET SG/27 – IP/06](#).

1.2 During the ICAO APAC MET/R WG/13 meeting held in May 2024, the participants noted the differences in the States’ implementation of SARPs related to the coordination of SIGMET information for tropical cyclones ([MET/R WG/13 – WP/09](#)) and invited the States to provide details of their relevant practices on WC SIGMET handover procedure.

1.3 This paper shares the experience gained in WC SIGMET Coordination in the SSEA SIGMET Coordination Group (referred to as “the Group”) and the local WC SIGMET issuance practices collected within the Group.

2. DISCUSSION

2.1 The North Indian Ocean basin is one of the basins frequented affected by tropical cyclones (TC). The basin is further divided into two areas, the Bay of Bengal and the Arabian Sea, with the former dominating the TC activities. The Tropical Cyclone Advisory Centre (TCAC) responsible for the North Indian Ocean is TCAC New Delhi from the India Meteorological Department.

2.2 In May 2023, Tropical Cyclone Mocha formed in the North Indian Ocean and intensified into an extremely severe cyclonic storm on 14 May. It was one of the strongest storms on record in the North Indian Ocean. MWOs Chennai (VOMM), Kolkata (VECC) and Yangon (VYYY) coordinated the issuance of WC SIGMET from 12 to 14 May via the chatroom of the HKO Regional SIGMET Coordination Platform. Assessment updates on the Tropical Cyclone’s position, the handover and cancellation of WC SIGMET were discussed. The forecasters commented that the coordination process was smooth during the regular review meeting in July 2023, but noted further guidelines on the handover of WC SIGMET would be helpful.

2.3 During the regular review meeting of the Group held in March 2024, the local WC SIGMET issuance practices were collected and listed below:

- Bangladesh, India, Indonesia, and Myanmar indicated that they would issue observed WC SIGMET only when the TC centre is located within their responsible FIR. They do not usually issue forecast WC SIGMET. If the TC centre is in the neighbouring FIR and the TC-associated convection started to affect their FIR, a WS SIGMET would be issued to warn about the associated convection.
- Maldives, Sri Lanka and Nepal indicated that TC centre of tropical storm or above intensity were seldom present in their FIRs, so the issuance of WC SIGMET was very rare for them. For TC-associated convection, they would issue WS SIGMET to warn users on the potential hazard.

2.4 Further procedural guidelines within the Group on WC SIGMET handover would be discussed in the next regular review meeting to facilitate operational coordination. The Group also welcomed two new observers, namely, Maldives (MWO Male) and Bangladesh (MWO Dhaka), and looked forward to the coordination of SIGMETs with neighbouring MWOs to improve the SIGMET service.

2.5 With reference to the practices mentioned in para 2.3 above, the practices in the North Indian Ocean were supplemented to the consolidated practices in [MET/R WG/13 – WP/09](#) as shown in **Appendix A**.

3. ACTION BY THE MEETING

3.1 The meeting is invited to

- a) note the information on WC SIGMET issuance and coordination practices in the North Indian Ocean;
- b) review the practices in **Appendix A** and consider consolidating common practices to develop potential guidelines to supplement the Asia/Pacific SIGMET Guide; and
- c) discuss any relevant matter as appropriate.

APPENDIX A: collection of WC SIGMET issuance practices in the Asia/Pacific Region

The followings are the common practices in the GHKPSV SIGMET Coordination group ([MET/S WG/11 IP/03](#)) and Collaborative SIGMET Issuance project ([MET/S WG/11 IP/05](#)):

- MWO's responsibility for WC SIGMET issuance depends on the observed location of the TC centre. The MWO should cease to update the related WC SIGMET once the observed TC centre is located outside its FIR. When the TC centre is located outside its FIR, CB clouds associated with tropical cyclones are covered by WS SIGMETs for thunderstorms.
- ICAO Annex 3 7.1.6 stipulates that a WC SIGMET shall be issued as soon as possible but not more than 12 hours before the commencement of the period of validity. For early alert of the threat of an approaching TC and to facilitate coordination in advance, it is suggested that a forecast WC SIGMET to be issued at least 6 hours but no more than 12 hours before a TC of tropical storm or above intensity is expected to enter ones' FIR. Similarly, it is suggested that a forecast WC SIGMET to be issued for the expected intensification of a TC inside one's FIR at least 6 hours but no more than 12 hours before the TC intensifying into a tropical storm.
- To avoid or minimise null period(s) of WC SIGMETs when a TC with intensity tropical storm or above affecting the FIRs, considering a case when a TC moves from FIR A under MWO A (upstream MWO) to FIR B under MWO B (downstream MWO),
 - MWO A and B shall start to coordinate a few hours (e.g. about 6 hours) ahead on the estimated time and position of TC crossing the FIR boundary or the time to update/cancel/issue related WC SIGMETs.
 - As the TC centre leaves FIR A, MWO A should confirm with MWO B on the issuance by MWO B of "OBSERVED" or "FORECAST" WC SIGMET before cancelling its "OBSERVED" WC SIGMET.
 - MWO B is advised to inform MWO A their "FORECAST" WC SIGMET being issued and the time of issuing "OBSERVED" WC SIGMET to replace their "FORECAST" WC SIGMET when the TC enters FIR B.
 - The communication is suggested to be carried out via a communication platform agreed by MWO A and B to ensure mutual understanding. Whenever there are changes on the assessment of WC SIGMET issuance, both MWO A and MWO B are encouraged to provide timely updates and carry out further coordination.
 - If there are discrepancies in the WC SIGMET issuance expected by MWO A and B, both MWOs may follow their own local operational practices in handling the WC SIGMETs while ensuring at least one "OBSERVED" or "FORECAST" WC SIGMET is valid.

The followings are the practices in Australia MWOs:

- MWOs issue a TC SIGMET whenever a TC, or part thereof, is impacting its FIR of responsibility. This includes CB contained within the Tropical Cyclone Advisory. Therefore, MWOs issue a TC SIGMET regardless of whether the centre is in their FIR or within a neighbouring FIR.
- Both MWOs issue WC SIGMETs based on the information contained within the Tropical Cyclone advisory.

The followings are the common practices in the SSEA SIGMET Coordination group over the North Indian Ocean:

- MWO's responsibility for WC SIGMET issuance depends on the observed location of the TC centre. The MWO should cease to update the related WC SIGMET once the observed TC centre is located outside its FIR. When the TC centre is located outside its FIR, CB clouds associated with tropical cyclones are covered by WS SIGMETs for thunderstorms.