

*International Civil Aviation Organization*

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**INFORMATION PAPER****Asia and Pacific (APAC)  
Thirteenth Meeting of the Meteorological Services  
Working Group (MET/S WG/13)**

Bangkok, Thailand, 29 to 31 March 2023

**Agenda Item 3: Planning and implementation of meteorological services****UPDATE ON THE SOUTH AND SOUTH-EASTERN ASIA  
SIGMET COORDINATION PROJECT**

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

**SUMMARY**

This paper presents the progress, updates and outcomes of the South and South-eastern Asia SIGMET Coordination Project, in particular the operational coordination of four MWOs of India and new participation from Nepal.

**1. INTRODUCTION**

1.1 The South and South-eastern Asia (SSEA) SIGMET Coordination Project kick-started in December 2019 between Indonesia and Sri Lanka in coordination with the Hong Kong Observatory (HKO). The objectives of the SSEA SIGMET Coordination project are to promote SIGMET coordination by setting coordination procedures, enhance common situational awareness among the participating MWOs and improve the quality of SIGMETs issued, especially those involving hazardous weather spanning across flight information region (FIR) boundaries. The coordination between Indonesia and Sri Lanka became operational on 1 February 2021. 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](#) and [MET/S WG/12 – IP/02](#).

1.2 This paper presents the progress, updates and outcomes of the SSEA SIGMET Coordination Project.

**2. DISCUSSION**

2.1 India (Chennai, Delhi, Kolkata and Mumbai MWOs) joined the SSEA SIGMET Coordination Project during mid-2021 to early 2022 as trial members. Forecasters became familiar with the coordination procedures in issuing SIGMET using HKO Regional SIGMET Coordination Web Platform through participation in an online training workshop held in June 2022 and quarterly review meetings. The SIGMET coordination between the four MWOs of India and other neighbouring MWOs in the group, namely, Colombo and Jakarta, transitioned to operational status on 24 October 2022.

2.2 In view of a shared boundary between Delhi FIR/Kolkata FIR and Kathmandu FIR, Nepal was invited to the SSEA SIGMET Coordination review meeting in October 2022. Nepal subsequently joined the coordination group as a trial member. With the support from the India Meteorological Department (IMD), Meteorology, Climatology, and Geophysical Agency (BMKG), the Department of Hydrology and Meteorology, Nepal (DMH Nepal) and the Department of Meteorology, Sri Lanka (DoMSL), the SSEA SIGMET Coordination Project has expanded to seven FIRs over the South and South-eastern Asia region (Figure 1).

2.3 The primary medium of communication and SIGMET preparation in the SSEA SIGMET Coordination Project is the HKO Regional SIGMET Coordination Web Platform. The SIGMET encoded on the Platform adhere to the guidelines in the ICAO Asia/Pacific Regional SIGMET Guide thus reducing human error in encoding. The Geographic Information System (GIS)-powered platform is equipped with four modules (TS & TC, CAT, ICE, VA) and a handy chat room. Each module contains tailored information on specific hazardous weather phenomenon. For example, satellite imageries and cloud top heights would be useful for knowing about the significant convective activities; while turbulence indices and pilot reports would be essential for diagnosing the atmospheric conditions favourable for causing turbulence. Inclusion of such modules helped raise the common situational awareness of the forecasters among the participating FIRs. IMD provided during the beginning of late 2022, real-time Atmospheric Motion Vectors (AMV) derived from the Indian National Satellite System (INSAT) for display on the Platform. This enhancement is useful for aviation forecasters to determine the movement of convective cells and areas with significant wind shear.

2.4 The Guiding Principles of Cooperation and SIGMET Coordination Procedures jointly developed by the participating agencies served as a backbone and proved successful in aligning the SIGMET issuance practices and improving the effectiveness of coordination. In recent review meetings, apart from convection, participants discussed on SIGMET issuance regarding turbulence which could be common over the northern part of India and Nepal during boreal winter. A total of 236 SIGMET coordination cases were conducted under the Project in the three-year period since project commencement on December 2022. One of the coordinated cases in the SSEA SIGMET Coordination group is shown in Figure 2.

2.5 Overall, the SSEA SIGMET Coordination Project has led to capacity building for preparation of SIGMETs in individual MWOs to work towards SIGMET deficiency removal and ensured SIGMET harmonisation between FIRs. Mutual understanding and common situational awareness between neighbouring MWOs in terms of national SIGMET issuance practices has also increased. Considering the fruitful results attained so far, the Project is open to other MWOs near the South Asia region for participation, with an aim to provide more harmonised SIGMET services for the aviation users.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to note the information contained in this paper.

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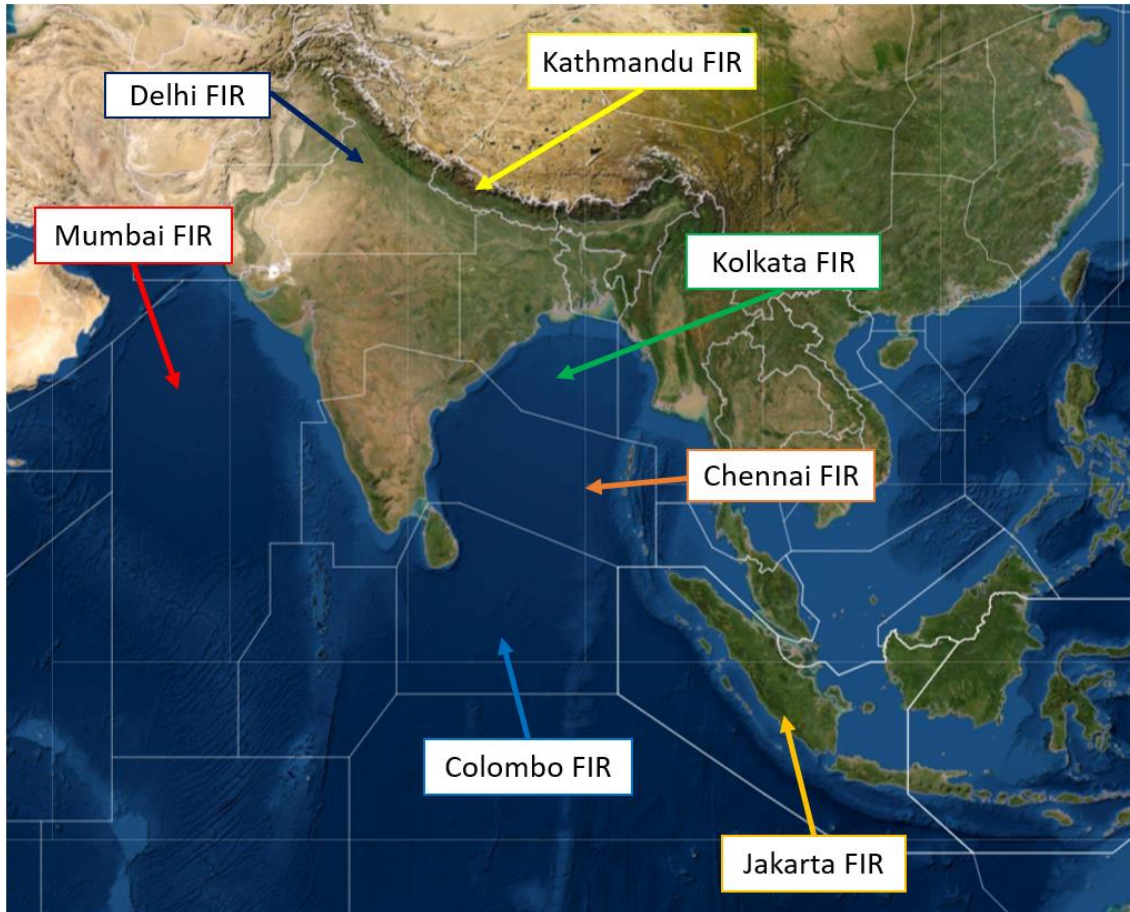


Figure 1 A map showing the FIRs participating in the SSEA SIGMET Coordination Project

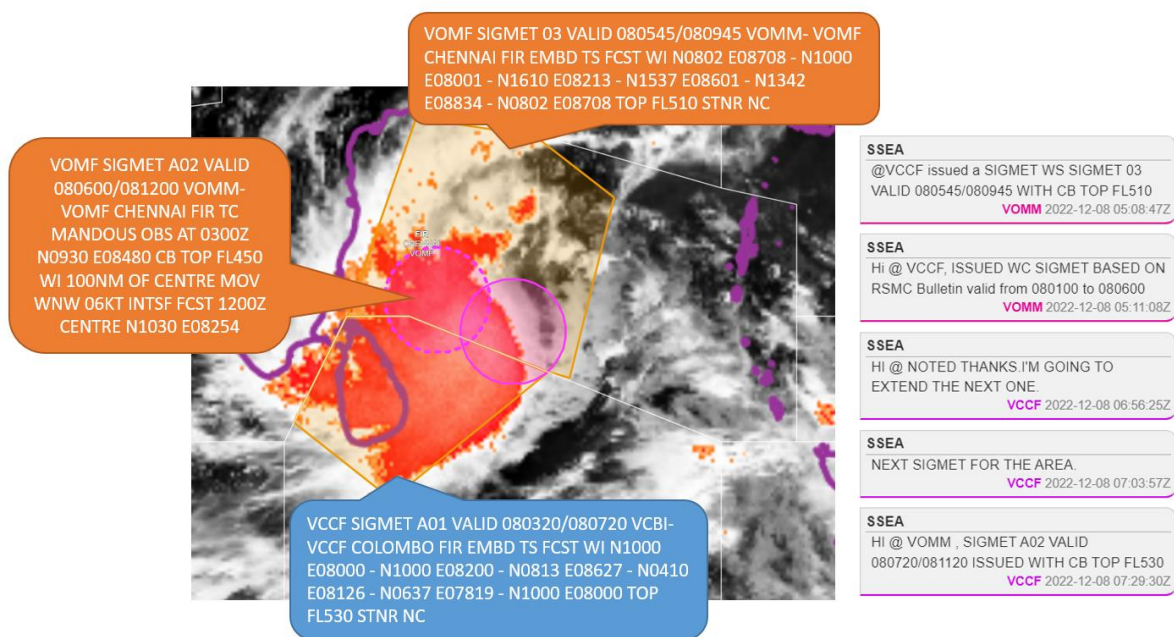


Figure 2 A coordinated case of issued SIGMETs (orange polygons) by Chennai and Colombo MWOs (background: deep convection satellite imagery) on 8 December 2022 with their chatroom messages (right)