

Update of the GHSV SIGMET Coordination project around Western and Northern part of South China Sea

Presented by Cambodia, China, Hong Kong, China and Vietnam

MET/IE WG/18 & MET/S WG/10 --- IP/07

Agenda Item 8: Monitoring of meteorological services



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Introduction

- ▶ GHSV SIGMET Coordination
- ▶ Participants: Guangzhou (ZGZU), Hong Kong (VHHH), Hanoi (VVNB), Ho Chi Minh (VVTS), Sanya (ZJSA), Kunming (ZPKM) MWO [since June 2018]
- ▶ Observer: Phnom-Penh (VDPP)
- ▶ Project since November 2017
- ▶ Transition to semi-operational for 00-13Z on 15 July 2019
- ▶ **Will transition to full operational status in November 2020**
- ▶ This paper updates the progress and achievements of the coordination in year 2019.



International Civil Aviation Organization

INFORMATION PAPER

TWENTY-SECOND MEETING OF THE METEOROLOGY SUBGROUP (MET SG/22) OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG)

Bangkok, Thailand, 18 – 21 June 2018

Agenda Item 5: Research, development and other initiatives

A TRIAL SIGMET COORDINATION PROJECT OVER THE SOUTH CHINA SEA COORDINATED BY THE HONG KONG OBSERVATORY

(Presented by Hong Kong, China)

MET SG/23 – IP/22
Agenda Item 5
17-20/06/19



ICAO

International Civil Aviation Organization

INFORMATION PAPER

Twenty-third Meeting of the Meteorology Sub-group (MET SG/23) of the Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG)

Bangkok, Thailand, 17 – 20 June 2019

Agenda Item 5: Research, development and other initiatives related to implementation of meteorological service

UPDATE OF THE SIGMET COORDINATION PROJECT AROUND WESTERN AND NORTHERN PART OF SOUTH CHINA SEA

(Presented by China, Cambodia, Hong Kong, China and Vietnam)

SUMMARY

This paper summarizes the experience and progress of the Trial SIGMET Coordination project around the Western and Northern part of South China Sea since its commencement in November 2017.

1. INTRODUCTION

- 1.1 MET SG/22 IP/22 and MET/S WG/8-IP/12 reported the progress of the Trial SIGMET Coordination (the "Trial") over the western and northern part of South China Sea following the Conclusion APANPIRG/28/30 which encourages cross-FIR-boundary SIGMET coordination in the APAC region. Guangzhou (ZGZU), Hong Kong (VHHH), Hanoi (VVNB), Ho Chi Minh (VVTS) and Sanya (ZJSA) FIRs participated in the trial since November 2017. Kunming (ZPKM) FIR and Phnom-Penh (VDPP) FIR joined the trial respectively as a participating member in June 2018 and an Observer in September 2018.
- 1.2 Since July 2018, the Trial has been extended from day time (from 01 – 09 UTC) on weekday to everyday in the week. The Trial was mainly carried out through the HKO SIGMET Coordination web platform, supplemented by social network apps and telephone as the back-up communication means.
- 1.3 This paper updates on the outcomes, progress of the Trial and the ongoing efforts in promoting harmonization of aviation meteorological services.

SUMMARY

Latest status of the trial SIGMET coordination project over the South China Sea coordinated by the regional SIGMET Coordination web platform managed by Hong Kong Observatory.

The trial SIGMET project was initiated to support the coordination of SIGMET over the airspace near the part of the South China Sea by providing a coordination platform for participating FIRs to have a common situation awareness and jointly issue coordinated SIGMET messages. Following the 22nd Meeting of the Meteorology Sub-group (MET SG/22) of the Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) in June 2018, a trial SIGMET was set up among Guangzhou (ZGZU), Hong Kong (VHHH), Hanoi (VVNB) and Sanya (ZJSA) FIRs to cover the airspace over and near part of the South China Sea since November 2017. Kunming (ZPKM) FIR joined the trial in June 2018. Currently, the trial SIGMET covers a total of 6 connected FIRs.

This paper reports the latest status of the trial SIGMET coordination project and highlights the major enhancement with an aim of facilitating SIGMET coordination projects within the region as promoted in the 7th Meeting of the Meteorological Requirements working group (MET/R WG/7) of the Asia and Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) in November 2017. The trial SIGMET covers the aviation community covering the airspace extending from the southern peninsula to the southern and southwestern part of China which was previously a busy flight area. Other connected neighbouring FIRs have also been participating in the trial SIGMET Coordination.

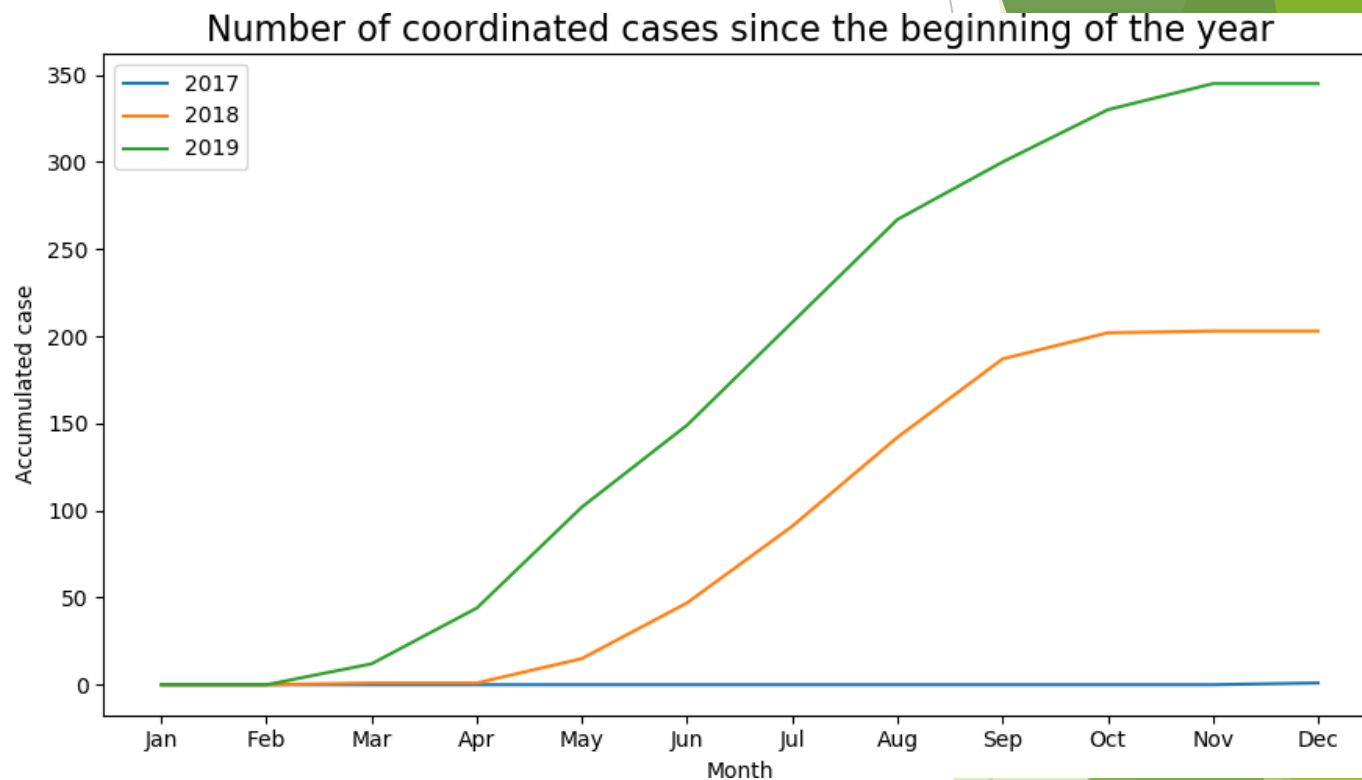
The trial SIGMET Coordination was conducted during 01 to 09 UTC from

GHSV SIGMET Coordination outcomes

Number of SIGMET Coordination cases

- ▶ Most of the coordination took place during May to August

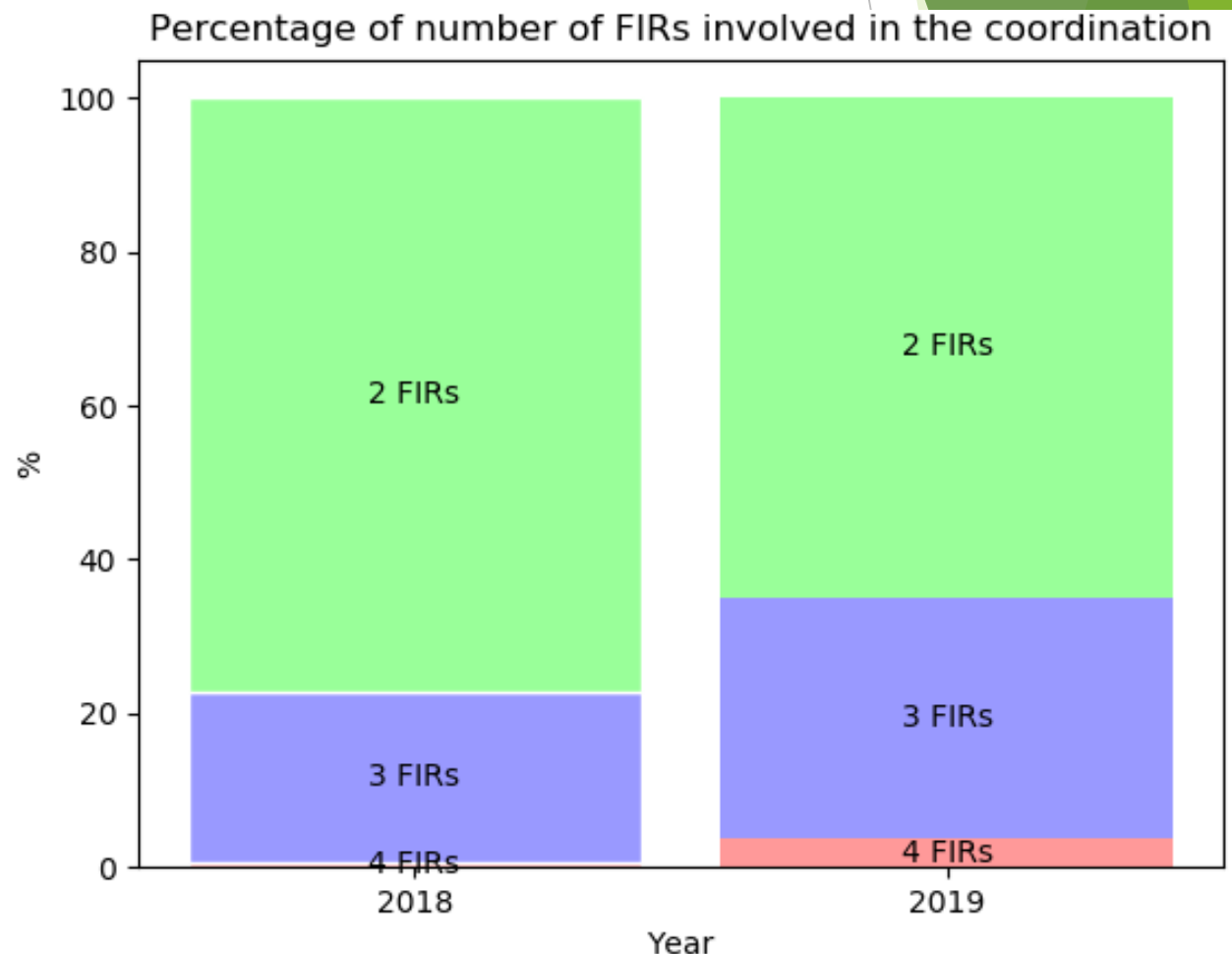
Year	Number of coordinated cases
2017	1
2018	203
2019	345



GHSV SIGMET Coordination outcomes

Number of FIRs involved in a coordination

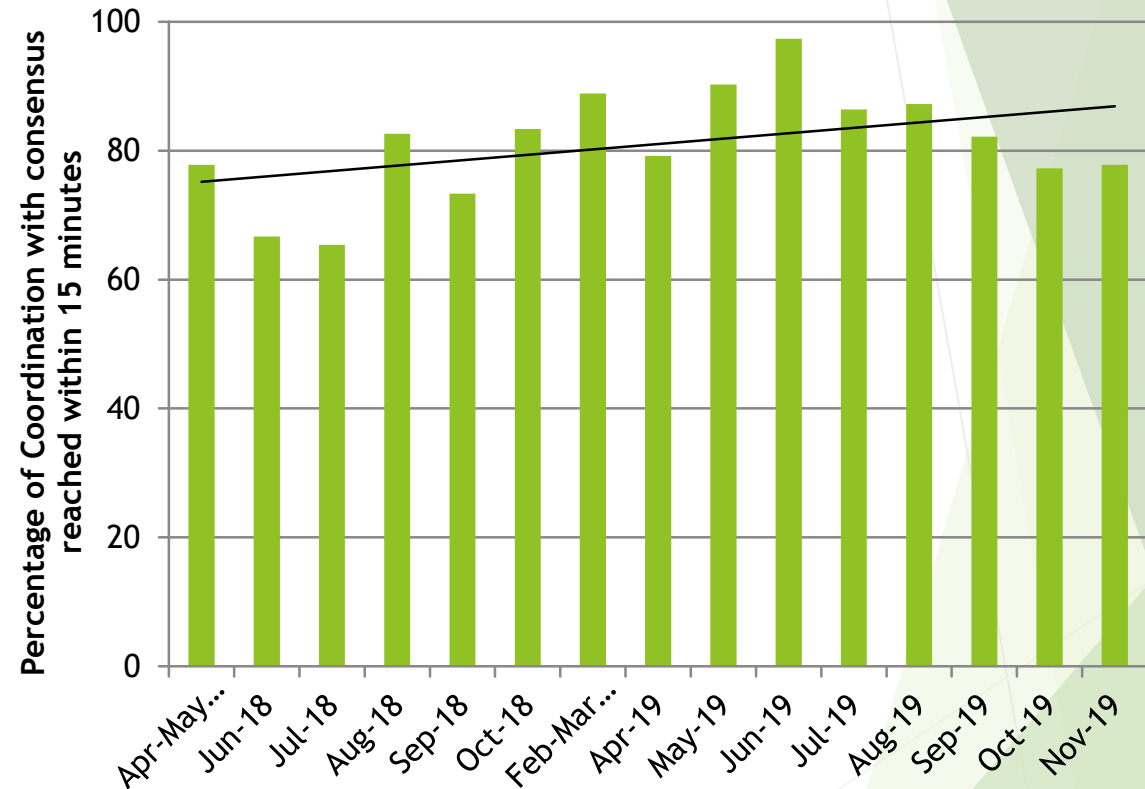
- ▶ The coordination cases in 2019 were more sophisticated than those in 2018
- ▶ There were significantly more coordination cases, in terms of both actual number and proportion, involving 3 or more FIRs
- ▶ Represented higher skills of the respective MWOs in conducting coordination



GHSV SIGMET Coordination outcomes

Effectiveness of the coordination

- ▶ More than 80% of the coordinated cases in 2019 had the consensus reached within 15 minutes
- ▶ The proportion of coordinated cases having the consensus reached within 15 minutes from the initial coordination request was also rising
- ▶ A trend analysis indicated that there was a long term improving trend on the effectiveness of the coordination



Participants' feedback

Guangzhou MWO: There are more successful coordinated cases this year. Especially since semi-operational phase, we coordinate with neighbouring MWOs to make coordinated SIGMETs and issue them via AFTN, which is beneficial for aviation weather users.

Vietnam MWO (for Hanoi and Ho Chi Minh FIR): The GHSV SIGMET Coordination project is a great project that gives us a lot of benefit over the handful platform and monthly meetings. We have had chances to discuss with neighbouring MWOs frequently to improve our forecasting skill and learn more from others. With its function, HKO platform is very helpful for monitoring significant weather over and between FIRs. We hope that in the future, this project could be developed more to enhance communication and regular discussion between MWOs.

Hong Kong MWO: There were more in depth discussion and sharing during the coordination and case reviews this year. Forecasters from the neighbouring MWOs shared about the thunderstorm climatology and also their practice on determining cloud top height, movement, etc. Such sharing helped a lot in understanding the coordination partners and thus speed up the coordination process.

Kunming MWO: In this year (2019), we carried out more specific SIGMET collaborations with other FIRs. Collaboration has improved the quality of SIGMET across borders, which increased enthusiasm for synergy between regions on important weather. Meanwhile, through multiple collaborative case sharing and forecast experience sharing, we have strengthened relevant learning and improve our level of SIGMET across regions.

Sanya MWO: The number of coordination this year (2019) has almost doubled compared to last year's. The collaboration efficiency has increased and consistency has also improved. Meanwhile, the GHSV SIGMET Coordination project fostered us to innovate and develop new software to improve coordination and consistency.

Phnom-Penh MWO: The participation in the GHSV SIGMET Coordination project is important to Phnom-Penh MWO. We are thankful to the support of other MWOs in the coordination project. The coordination platform is very useful in both monitoring the weather situation and preparation of SIGMET for Phnom-Penh MWO.



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Future enhancement

Amendment 79 to ICAO Annex 3

3.4.4 Recommendation.— *An MWO should coordinate SIGMET with neighbouring MWO(s), especially when the en-route weather phenomenon extends or is expected to extend beyond the MWO's specified area of responsibility, in order to ensure harmonized SIGMET provision.*

Note.— *Guidance on the bilateral or multilateral coordination between MWOs of Contracting States for the provision of SIGMET can be found in the Manual of Aeronautical Meteorological Practice (Doc 8896).*

- ▶ HKO is committed to make continuous enhancement of the SIGMET coordination platform
 - ▶ more satellite information
 - ▶ encoding of SIGMET in IWXXM format
 - ▶ improving the algorithm on cloud top height
- ▶ HKO is exploring expanding the scope of SIGMET coordination to cover other hazardous phenomena, such as WC SIGMET, and providing more trainings to the interested MWOs
- ▶ Welcome other MWOs in the region to participate.

Thank you for your attention!

Any States who is interested in using the HKO Regional SIGMET Coordination platform could contact Ms. Christy Leung at yyleung@hko.gov.hk