



*International Civil Aviation Organization*

## **INFORMATION PAPER**

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

*Bangkok, Thailand, 18 to 21 June 2018*

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#### **Agenda Item 5: Research, development and other initiatives**

#### **LATEST DEVELOPMENT OF THE ASIAN AVIATION METEOROLOGICAL CENTER**

(Presented by China)

##### **SUMMARY**

This paper presents the latest development of the Asian Aviation Meteorological Centre (AAMC) established by China, the progress of the Asian Hazardous Weather Guidance Product Issuance and its transition to trial operational phase among China

#### **1. INTRODUCTION**

1.1 The ICAO Meteorology Divisional Meeting in 2014 (MET14) formulated a recommendation (Recommendation 2/9) to call for a phenomenon-based regional advisory system for select en-route hazardous meteorological conditions consistent with the Global Air Navigation Plan (Doc. 9750) to be developed expeditiously. The recommendation is to address the long-standing deficiencies in the reporting and forecasting of en-route hazardous meteorological conditions which have persisted for many years in some regions. In addition to this the aviation industry has identified a need for a phenomenon-based system to provide advice on hazardous weather. Founded by Civil Aviation Administration of China (CAAC) and co-founded by China Meteorological Administration (CMA) and Hong Kong Observatory (HKO), the Asian hazardous weather Guidance platform had been established by the end of 2017, and put online at January 1<sup>st</sup> 2018.

Accompanied with the platform operation, AAMC also started the formal trial operation from January 1<sup>st</sup> 2018, with CAAC serving as the main centre, HKO as the backup centre and CMA as the technical support centre. The operations at the main centre are undertaken by Aviation Meteorological centre (AMC).

1.2 In the Asia and Pacific Region, SIGMET coordination activities have also been facilitated. ICAO APANPIRG/26 meeting (2015) noted the importance of cross-FIR-boundary coordination and alignment of the MET information provided by States for adjacent FIRs to support Air Traffic Management (ATM). The regional SIGMET coordination trials was carried out from December 2017.

## 2. DISCUSSION

2.1 Under the collaboration of CAAC, CMA and HKO, AAMC has been preliminarily established at the end of 2017. It is preliminarily capable of monitoring and forecasting the hazardous weather in the Asian area; and it's also capable of issuing/updating/coordinating Guidance products, and assessing the weather forecast. At January 1<sup>st</sup> 2018, the Asian hazardous weather Guidance platform began the trial operation; and AAMC started the trial operation jointly.

2.2 As the main centre of AAMC, AMC sets up two work seats: the Asian hazardous weather forecasting seat and the Asian hazardous weather collaborating seat, which both operate uninterruptedly. The forecasting seat is in charge of monitoring the hazardous weather, generating and updating the Guidance products. The collaborating seat is in charge of coordination of the hazardous weather in the Asian area, the SIGMET coordination, the issuance of the Guidance, and consultation services for users.

2.3 AAMC sets up and carries out the collaboratively trial operation program. The main centre holds the weather consultation video conference with the backup center everyday at 9:00am, discusses in-depth the future 24 hour weather pattern development in the Asian area, and hazardous weather development and change. AAMC then issues the weather briefing report.

2.4 AAMC sets the standard of the Guidance products. Currently they routinely generate and issue Guidance products for the Asian area 5 times a day, the starting time of the products are: 0000, 0300, 0600, 0900, 1200 UTC and the valid time is 6 hours. The issuing time should be prior to the starting time but no earlier than 30 minutes.

2.5 AMC generates the preliminary Asian hazardous weather Guidance products based on observations and forecasting, and collaboratively consult with 9 domestic MWOs to modify the preliminary products. After the modifications, AMC will consult with HKO and issue the guidance with approvals from both sides.

2.6 Referred to the guidance, regional MWOs can use the hazardous weather Guidance platform to create automatic SIGMET, to help them issue their final SIGMET more quickly. This can improve the issuance efficiency and also assure the consistency of the cross-FIR-boundary SIGMET, provide seamless meteorological service to the ATMs and pilots in the Asian area.

2.7 Currently, 9 domestic MWOs, HKO and AMC have joined the Asian hazardous weather Guidance network. They can collaboratively consult the hazardous weather in their watching area any time and issue a consistent SIGMET.

2.8 Currently, there are several airlines that have joined the Asian hazardous weather Guidance network, such as Shandong Airlines, Hainan Airlines, Capital Airlines, etc. These airlines can obtain abundant meteorological monitoring materials and hazardous weather forecasting products from the network.

## 3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper.

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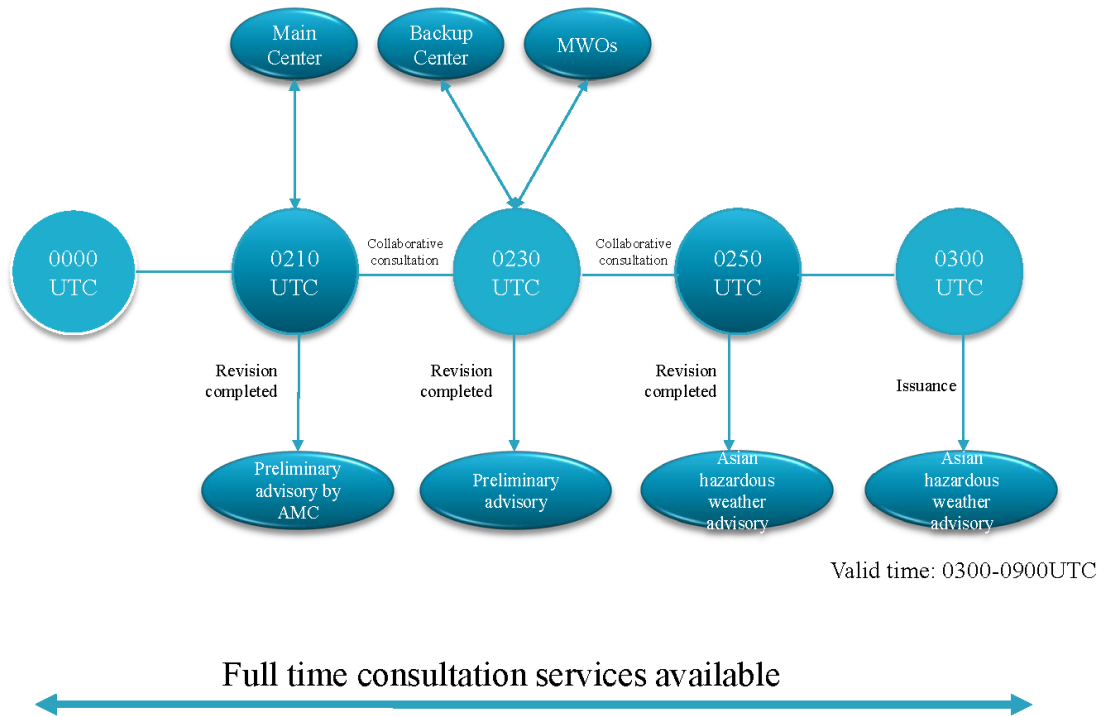


Figure 1: The generation, collaboration and issuance of the routine Guidance products, and the consultation services (0000-0300UTC) (Same for the other time periods)

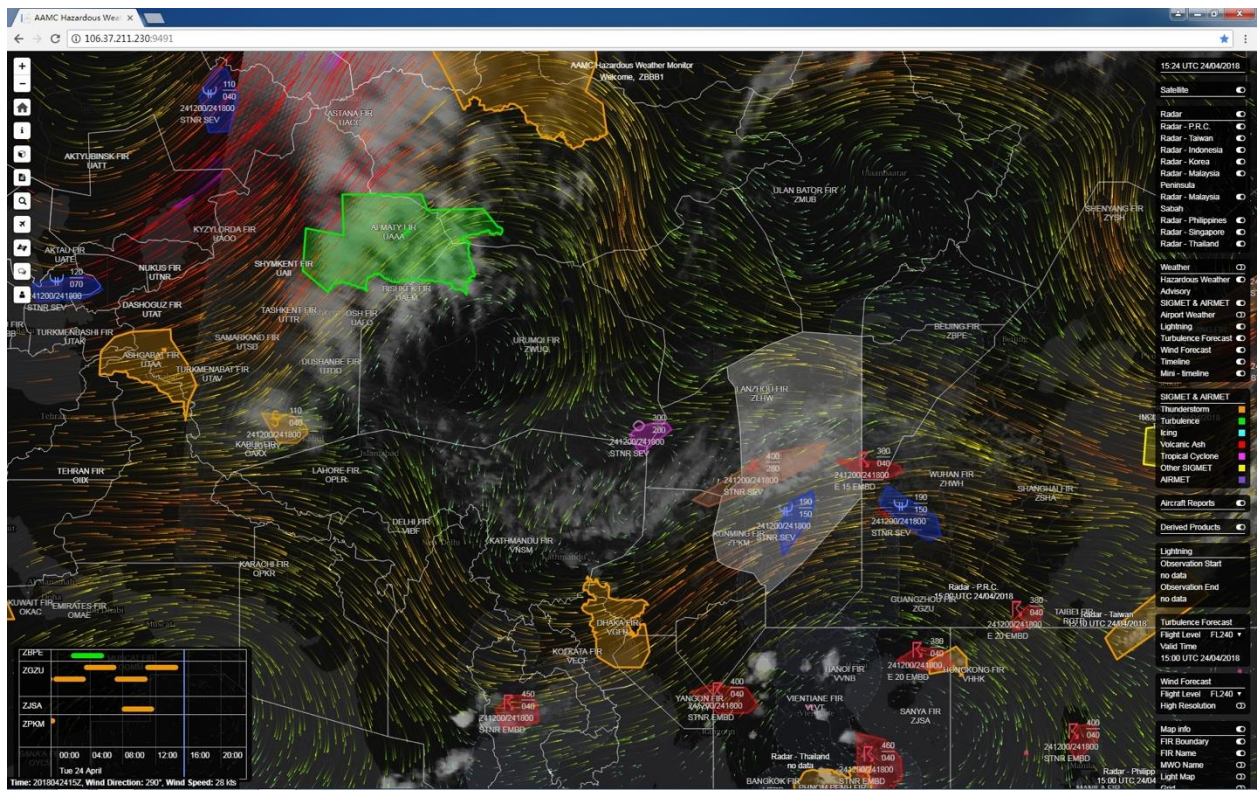


Figure 2: The homepage of the Asian hazardous weather Guidance platform

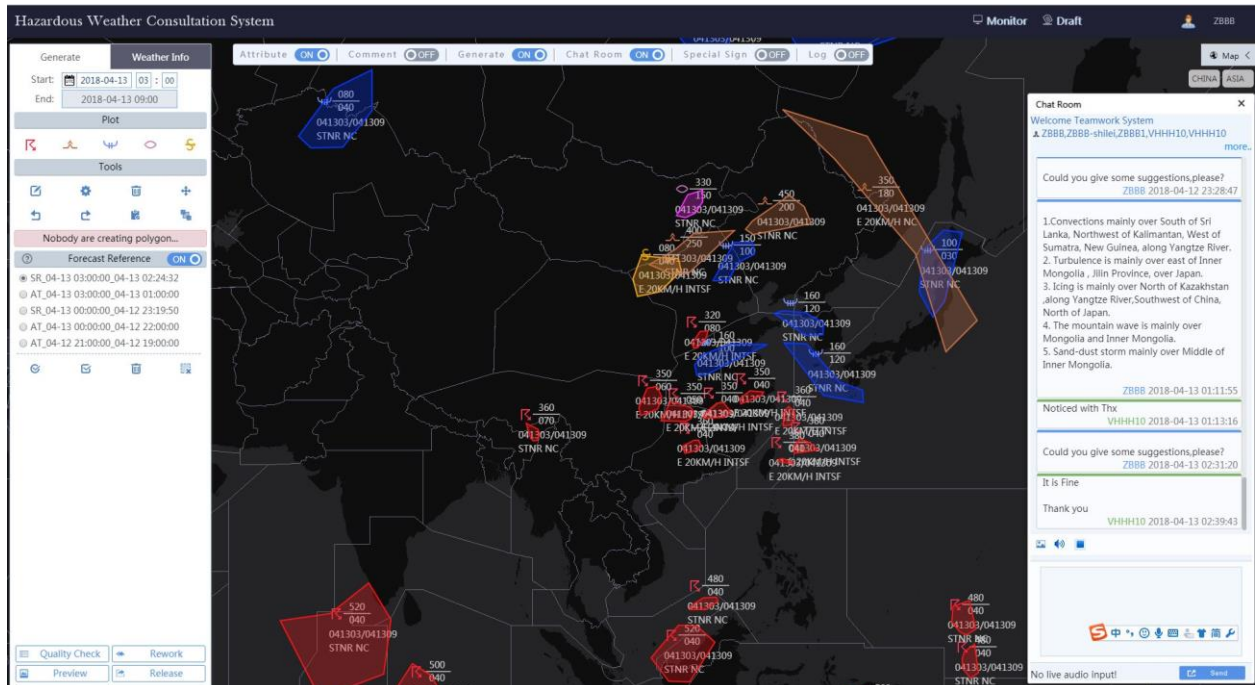
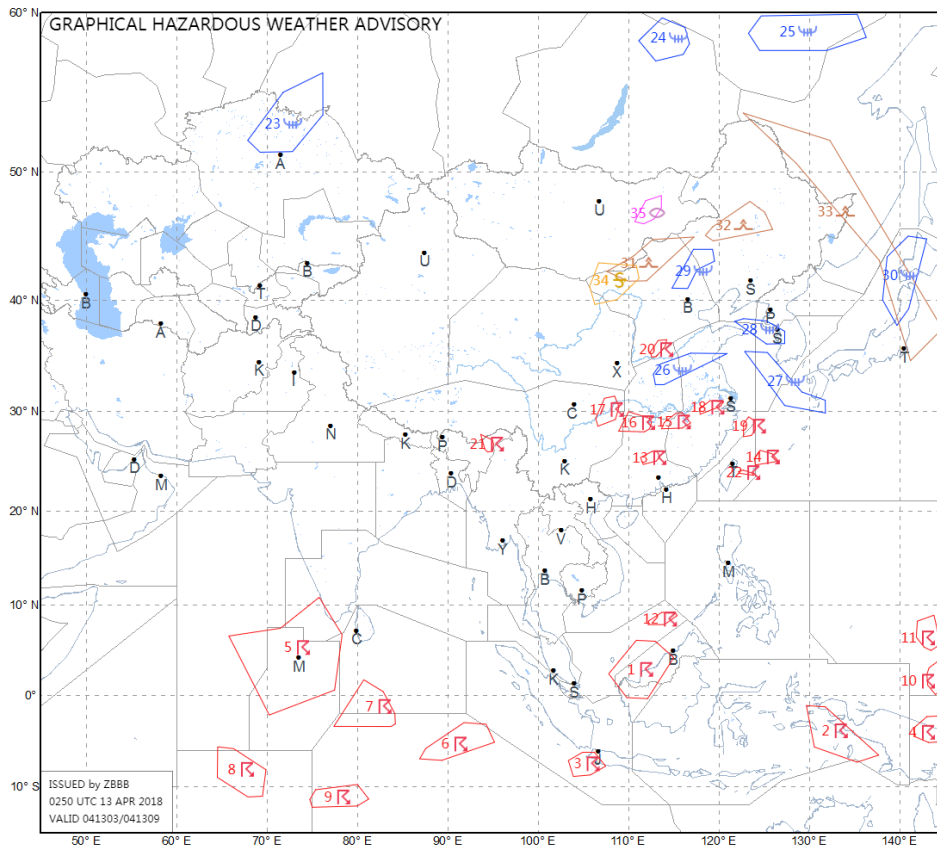


Figure 3: The collaboration page of the Asian hazardous weather Guidance platform



NO	PHENOMENON	VALID	MOV	LEVEL	INTENSITY	OBS
1	EMBD TS	130300/130900	STNR	FL040/520	NC	
2	EMBD TS	130300/130900	STNR	FL040/500	NC	
3	EMBD TS	130300/130900	STNR	FL040/490	NC	
4	EMBD TS	130300/130900	STNR	FL040/490	NC	
5	EMBD TS	130300/130900	STNR	FL040/520	NC	
6	EMBD TS	130300/130900	STNR	FL040/490	NC	
7	EMBD TS	130300/130900	STNR	FL040/500	NC	
8	EMBD TS	130300/130900	STNR	FL040/500	NC	
9	EMBD TS	130300/130900	STNR	FL040/490	NC	
10	EMBD TS	130300/130900	STNR	FL040/480	NC	
11	EMBD TS	130300/130900	STNR	FL040/480	NC	
12	EMBD TS	130300/130900	STNR	FL040/480	NC	
13	EMBD TS	130300/130900	E 20KMH	FL040/360	INTSF	
14	EMBD TS	130300/130900	E 20KMH	FL040/380	INTSF	
15	EMBD TS	130300/130900	E 20KMH	FL040/350	INTSF	
16	EMBD TS	130300/130900	E 20KMH	FL050/350	INTSF	
17	EMBD TS	130300/130900	E 20KMH	FL060/350	INTSF	
18	EMBD TS	130300/130900	E 20KMH	FL040/350	INTSF	
19	EMBD TS	130300/130900	E 20KMH	FL040/360	INTSF	
20	EMBD TS	130300/130900	E 20KMH	FL080/320	INTSF	
21	EMBD TS	130300/130900	STNR	FL070/360	NC	
22	EMBD TS	130300/130900	E 20KMH	FL040/380	INTSF	
23	SEV ICE	130300/130900	STNR	FL040/080	NC	
24	SEV ICE	130300/130900	STNR	FL040/090	NC	
25	SEV ICE	130300/130900	STNR	FL040/090	NC	
26	SEV ICE	130300/130900	STNR	FL100/160	NC	
27	SEV ICE	130300/130900	STNR	FL120/160	NC	
28	SEV ICE	130300/130900	STNR	FL120/160	NC	
29	SEV ICE	130300/130900	STNR	FL100/150	NC	
30	SEV ICE	130300/130900	STNR	FL030/100	NC	
31	SEV TURB	130300/130900	STNR	FL250/400	NC	
32	SEV TURB	130300/130900	STNR	FL200/450	NC	
33	SEV TURB	130300/130900	E 20KMH	FL180/350	NC	
34	HVY SS DS	130300/130900	E 20KMH	FL040/080	INTSF	
35	SEV MTW	130300/130900	STNR	FL150/330	NC	

Figure 4: An example of the Asian hazardous weather Guidance products