60th CONFERENCE OF DIRECTORS GENERAL OF CIVIL AVIATION ASIA AND PACIFIC REGIONS

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AGENDA ITEM 4: AIR NAVIGATION

METEOROLOGICAL SERVICES IN SUPPORT OF ASIA-PACIFIC AIR TRAFFIC FLOW MANAGEMENT COOPERATION

(Presented by China)

SUMMARY

This paper presents China's meteorological service capabilities to support the Asia-Pacific regional Air Traffic Flow Management (ATFM) Cooperation. It introduces the Collaborative Convective Forecast Products (CCFP), already operational in China's domestic ATFM system, along with the Hazardous Weather Coordination Platform (https://www.aamets.com) that can be applied to regional ATFM collaboration. It also introduces the meteorological information that China could provide, including the historical, real-time and forecast data for typhoons, thunderstorms, turbulence, icing and space weather across the region and on major routes. The purpose of this paper is, by providing an overview of the need of MET service for Asia-Pacific regional AFTM and the current capabilities of MET service provision in China, to invite the conference to encourage aeronautical meteorological service agencies in Asia to actively cooperate in regional hazardous weather coordination, as well as to share the meteorological data to better serve the collaborative mechanism of regional ATFM Cooperation in Asia-Pacific region

METEOROLOGICAL SERVICES IN SUPPORT OF ASIA-PACIFIC AIR TRAFFIC FLOW MANAGEMENT COOPERATION

1. INTRODUCTION

1.1 Some Asia-Pacific air traffic flow management (ATFM) units plan to carry out coordinated regional ATFM operations to promote the matching of flight traffic and airspace capacity, ensure the safety of civil aviation operations, and improve the operational efficiency of the Asia-Pacific region.

1.2 Meteorological services will serve as a critical component within the framework of Asia-Pacific regional ATFM cooperation.

1.3 China has been committed to improving aeronautical meteorological services in the Asia area, particularly in enhancing the issuance of harmonized Significant Meteorological Information (SIGMET). Since 2018, through the Hazardous Weather Coordination Platform (https://www.aamets.com), China has organized regular coordination on hazardous weather among Meteorological Watch Offices (MWOs) in the region, as well as continuously collecting user feedback to improve and update the platform.

1.4 In the future, China will continue to cooperate with other meteorological service agencies in the Asia-Pacific through the Hazardous Weather Coordination Platform to support regional ATFM cooperation.

2. DISCUSSION

2.1 To support the operational coordination of the Asia-Pacific ATFM cooperation mechanism, in addition to collaborating with neighbouring states on SIGMET coordination to improve the consistency and harmonization of regional hazardous weather information, China has also developed Collaborative Convective Forecast Products (CCFP), which has been integrated in the domestic ATFM system in China.

2.2 To enhance the accuracy and effectiveness, the Aviation Meteorological Center of ATMB, CAAC collaborates with seven regional MET centers in the Regional ATMB of China, domestic ATFM units and airlines to develop CCFP, which has a positive effect on ATFM. CCFP is released three times a day (22UTC, 06UTC, 10UTC), with convection forecasts for +2, +4, +6 and +8 hours each time, covering the main periods of convection in China.

2.3 Other historical, real-time and forecast meteorological information, focusing on significant weather phenomena such as typhoons, thunderstorms, turbulence, icing and space weather, are also provided for various purposes in different phases of ATFM in China.

2.4 The historical meteorological data, primarily comprising retrospective analyses of significant weather events (e.g., typhoons, thunderstorms) impacting aviation operations over a defined past period, is used to assess the effectiveness of meteorological services in ATFM and to support the optimization of collaborative mechanisms.

2.5 The main real-time and forecast meteorological information provided for China's AFTM typically includes:

- Typhoon evolution - projected tracks, intensity changes, and affected areas for both existing and developing systems;
- Convective weather - predicted timing, coverage areas, and associated cloud top heights of thunderstorms;

- In-flight hazards - forecasted intensity and spatial distribution of turbulence and icing conditions;

- Space weather impacts - anticipated severe space weather events with potential aviation operational effects.

2.6 Regional meteorological information sharing is essential to enhance ATFM collaboration cooperation.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

a) Take note of the contents of this document;

b) Pay attention to aeronautical MET capacity development and enhancement involved in the provision of services for international air navigation, especially for ATFM cooperation, and encourage aeronautical meteorological service agencies to actively cooperate in regional hazardous weather coordination; and

c) Recommend that aeronautical meteorological service agencies to share the meteorological data to better serve in collaborative mechanism of regional ATFM cooperation.

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