



International Civil Aviation Organization

WORKING PAPER

A39-WP/404
TE/179
15/9/16
(Information paper)
English and Chinese only¹

ASSEMBLY — 39TH SESSION

TECHNICAL COMMISSION

Agenda Item 36: Aviation safety and air navigation implementation support

CHINA'S EFFORTS TO IMPROVE THE QUALITY OF REGIONAL SIGMET ISSUANCE

(Presented by the People's Republic of China)

EXECUTIVE SUMMARY

This paper presents efforts made by China in terms of improvement of the quality of regional Significant Meteorological Information (SIGMET) issuance in recent years and its future plan.

<i>Strategic Objectives:</i>	This paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
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<i>Financial implications:</i>	
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<i>References:</i>	
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¹ English and Chinese versions provided by the People's Republic of China.

1. INTRODUCTION

1.1 China is a country with a vast territory and complicated terrains and meteorological conditions. There are altogether 9 meteorological watch offices (MWOs), each of which conscientiously fulfils duties described in Annex 3 - Meteorological Service for International Air Navigation - to Convention on International Civil Aviation, continuously watches hazardous weather conditions around the clock within its coverage and issues SIGMET on a timely basis.

1.2 Aviation Meteorological Center of Air Traffic Management Bureau, CAAC organizes two nation-wide weather consultations every day to establish harmonized weather situation awareness and direct daily issuance of SIGMET.

1.3 Asia consists of many countries, particularly a number of developing countries and underdeveloped countries, so there exists an extreme imbalance as far as service capabilities and levels are concerned. According to some investigation reports, there have been long-time deficiencies in terms of the issuance of SIGMET in some regions, including wrong categories, incorrect formats and even lack of SIGMET.

1.4 For a long time, the underdeveloped countries in the Asia/Pacific region are not able to completely fulfil the basic obligations specified in Annex 3 and not capable of providing SIGMET to their FIR(s), thus having a great impact on aviation flight safety. China has helped relevant countries in issuing SIGMET of the FIR(s) that they are responsible for and performing duties concerned, and has also provided training to help improve the capabilities of their aeronautical meteorological personnel (AMP).

2. CONCLUSION

2.1 China has been strengthening their research on application technology of various kinds of meteorological data to promote the quality of SIGMET issuance.

2.1.1 China has used detecting means such as geostationary and polar satellite, radar detection, radar mosaics and lightening positioning to enhance its capabilities of watching the formation and development of hazardous weather.

2.1.2 China has made use of T639 Global Numerical Weather Prediction Model (horizontal resolution is $0.281525^{\circ} \times 0.28125^{\circ}$) and Beijing-Shanghai-Guangzhou Regional Numerical Weather Prediction Model (the maximum horizontal resolution is 4 km) to increase accuracy of nowcasting, thus offering important references to analysis and forecast of hazardous weather.

2.1.3 China has established a good communication mechanism with airlines and air traffic control authorities to timely exchange flight information such as turbulence, icing and wind shear, thus providing an important reference for timely issuance of SIGMET.

2.2 China has built Asian Aeronautical Meteorology Service Website and provides relevant auxiliary products support to SIGMET issuance to MWOs in other Asian countries by means of this website. The website, started in the beginning of 2005 as a pilot project of World Meteorological Organization, has enjoyed 80 fixed national-level users. The website provides meteorological materials including satellite images, surface and upper-air observations, numerical prediction and sand storm forecast, et al..

2.3 China has helped Phnom Penh FIR of Cambodia issue SIGMET. Since the MWO has not yet been established in Phnom Penh FIR, CAAC and authority of Cambodian civil aviation signed a bilateral agreement under the coordination of ICAO Asia and Pacific regional office, to help Cambodia to improve the ability of issue SIGMET. China issues SIGMET for Phnom Penh FIR since June 2009. Every year, China and Cambodia carries out a number of cooperation and exchanges, and to provide training for Cambodian aviation meteorological personnel.

2.4 Asian SIGMET advisory trial was carried out. during May 4 to July 30, 2011. China was responsible to conduct the Asian SIGMET advisory trial to issue SIGMET advisory information for some Asian States in order to assist MWOs in the improved issuance of SIGMET. The MWOs and the users generally considered that the SIGMET advisories helped improve the issuance of SIGMETs in the trial.

2.5 **Future Plan**

2.5.1 From 2016 to 2020, China will reinforce aeronautical SIGMET forecast service capabilities:

2.5.2 China will intensify hazardous weather watching capabilities: collection of various kinds of meteorological information concerning the Asian and Pacific Region; use of multiple materials to improve analysis capabilities of hazardous weather.

2.5.3 China will intensify hazardous weather forecast capabilities: enhancement of forecast and early warning capabilities of different types of hazardous weather through a comprehensive forecast system with multiple data and products of numerical weather prediction.

2.5.4 China will continue to provide service of issuing SIGMET for Cambodia, conduct exchange and cooperation in view of aeronautical meteorological service between the two countries on a regular basis, and provide regular training to Cambodian AMP.

2.5.5 China will undertake international obligations to continuously deliver international training courses on aeronautical meteorological technology.

2.5.6 Besides hosting training courses and helping Cambodia improving its SIGMET issuance, China plans to strengthen its support for regional collaboration by providing SIGMET advisory information through its Asian Aviation Weather Centre to be established as a collaborative effort of CAAC, CMA and the Hong Kong Observatory.