International Civil Aviation Organization

INFORMATION PAPER

Asia and Pacific (APAC)
Twelfth Meeting of the Meteorological Requirements Working Group (MET/R WG/12)

Bangkok, Thailand, 01 to 05 May 2023

Agenda Item 4: Collaboration between MET services and ATM stakeholders

ATM-TAILORED MET SERVICES STATUS IN THE REPUBLIC OF KOREA

(Presented by the Republic of Korea)

SUMMARY

This paper presents the current status of ATM-tailored MET services provided by the Aviation Meteorological Office (AMO) to support ATFM decision-making.

INTRODUCTION

1 The Aviation Meteorological Office (AMO) of the Korea Meteorological Administration (KMA) works 24 hours a day at the Air Traffic Control Center (ATCC) to support decision-making for air traffic flow management (ATFM) and provides weather information for domestic and foreign airports, airspace and air routes.

DISCUSSION

ATM-tailored MET Information and Services

2.1 Collaborative Decision Making (CDM): The ATCC regularly holds a CDM conference once a day at 0700 UTC. During this conference, the AMO provides a weather briefing to the CDM members. When a weather event that may have a significant impact on aircraft operations occur (or are expected within a few hours), on-demand CDM conferences are held, and the AMO provides a weather briefing.

Figure 1 Online CDM participation

2.2 Weather Analysis (Meteorological Information): The AMO provides weather analysis through FMT and its homepage to support ATFM twice a day at 0000 and 0700 UTC. This analysis includes detailed weather information on major airports, significant weather for domestic and foreign airspace, SIGWX, satellite images, etc.

2.3 Significant Weather Scenarios: The AMO provides weather scenarios when significant weather events such as typhoons, heavy snow, or low visibility are expected to have a significant impact on ATFM. The purpose is to support not only ATFM but also the flight decisions of airlines and airport operations.

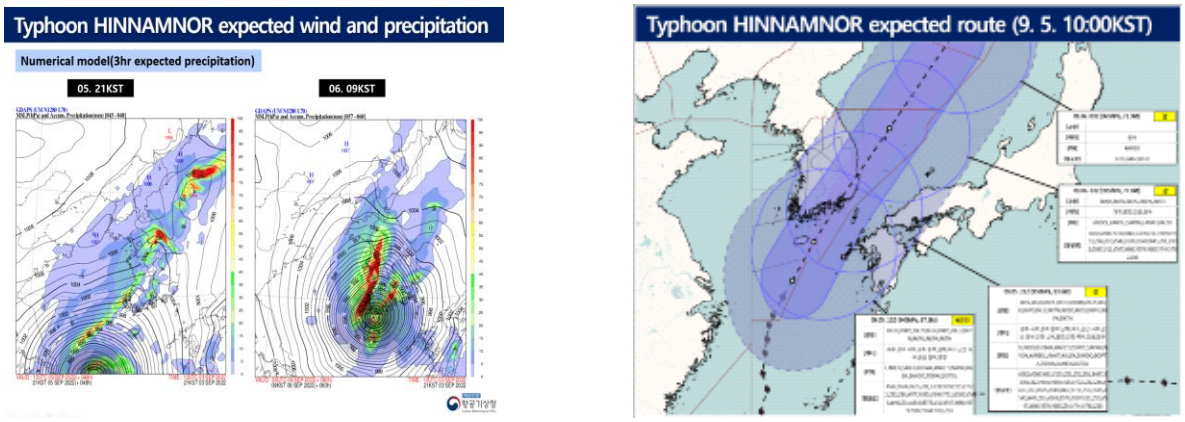


Figure 2. Typhoon scenario

2.4 Weather Briefing for ATCC and ACC: The AMO provides weather briefings for ATCC and ACC twice a day at 0000 and 0900 UTC. The briefings are provided during each shift and describe the weather conditions at domestic and foreign airports, as well as airspace, that are expected to affect ATFM while the controllers are on duty.

2.5 Terminal Area Weather Service: Monitoring and Predicting Significant Convection
The AMO provides real-time observation information such as radar echoes, lightning, wind data by altitude, precipitation type and hail observations. It also provides predictive information on short-term precipitation within 2 hours based on radar observations.

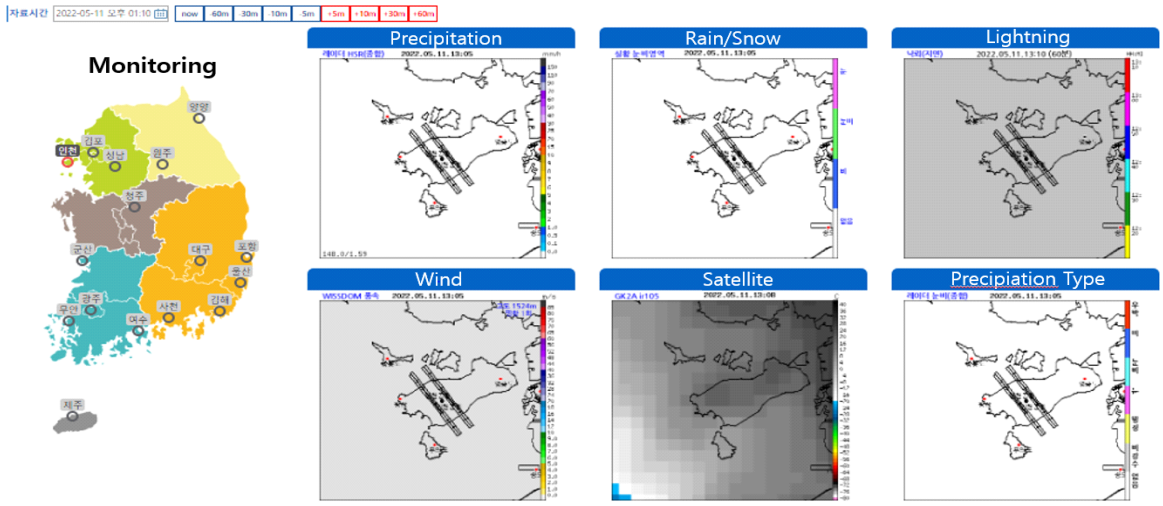
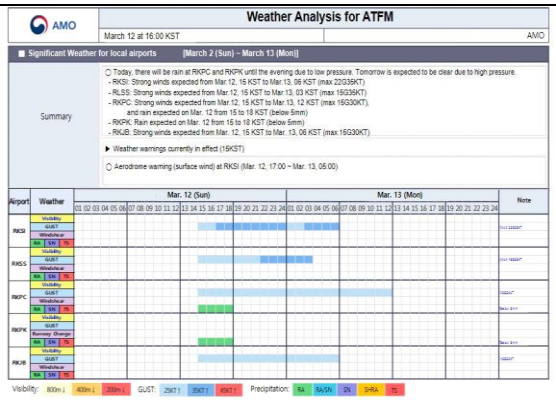
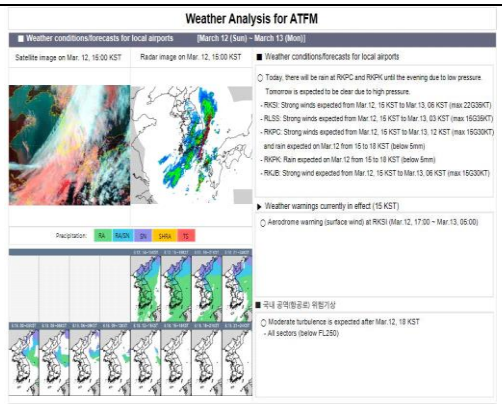


Figure 3. Real-time observations



<Significant weather at local airports>



<Domestic weather conditions & forecasts>

2.6 Weather Analysis (Meteorological Information): In May 2022, we implemented a system that will automatically updates TAFs and aerodrome warnings for seven local airports, as well as TAFs for ten overseas airports to reflect updates in weather analysis. Additionally, we have updated the domestic and overseas weather conditions in the analysis to provide a single view of significant weather analysis.

2.7 Aviation-tailored Typhoon Information Service: The typhoon information announced by the National Typhoon Center of the Korea Meteorological Administration is more geared towards the general public and is not sufficient for aviation users. To meet the needs of airlines, the AMO has begun providing reprocessed typhoon information for aviation users since September 2022 to ensure that existing typhoon information can be used for decision-making by aviation users. The service was initiated with information about Typhoon MUIFA, and the main content of the service includes:

Converting unit time (e.g. local time → UTC), wind speed units (e.g. m/s → knot), and center position units (latitude and longitude) included in typhoon information to make the typhoon information usable for concerned aviation users.

If a typhoon is expected to enter the Incheon FIR, then airports, sectors, fixes, and routes that may be affected by the typhoon will be displayed by forecast time.

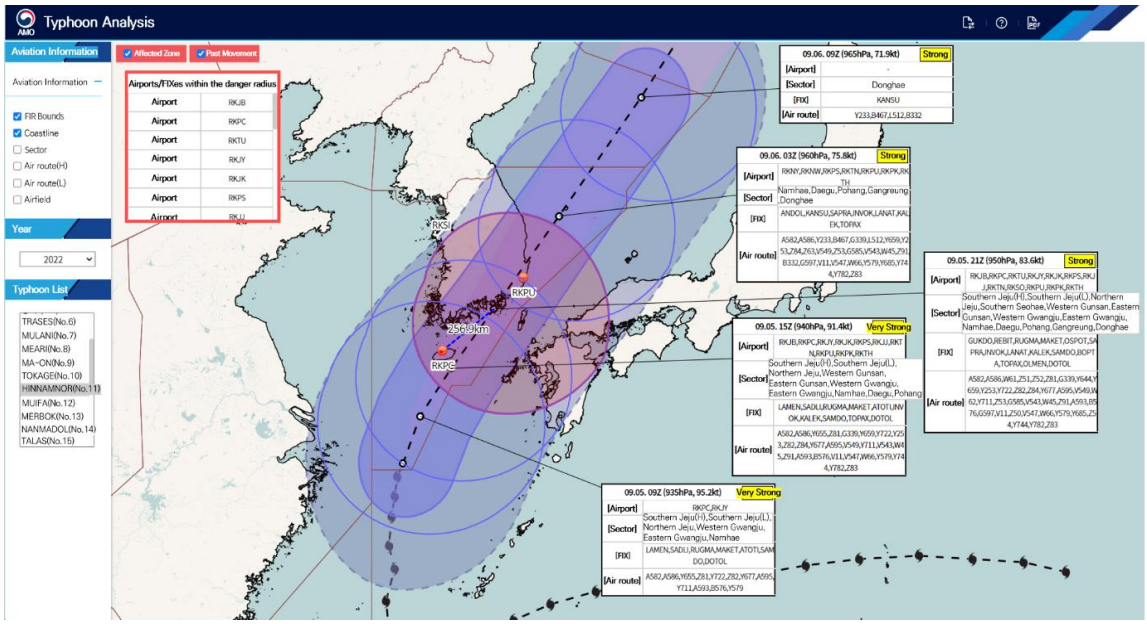


Figure 4. Typhoon information service for aviation

3. ACTION BY THE MEETING

3.1 Note the information contained in this paper.

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