

Development of the Aviation Multi-data Fusion System

Presented by China
ICAO APAC MET-ATM Webinar 2021



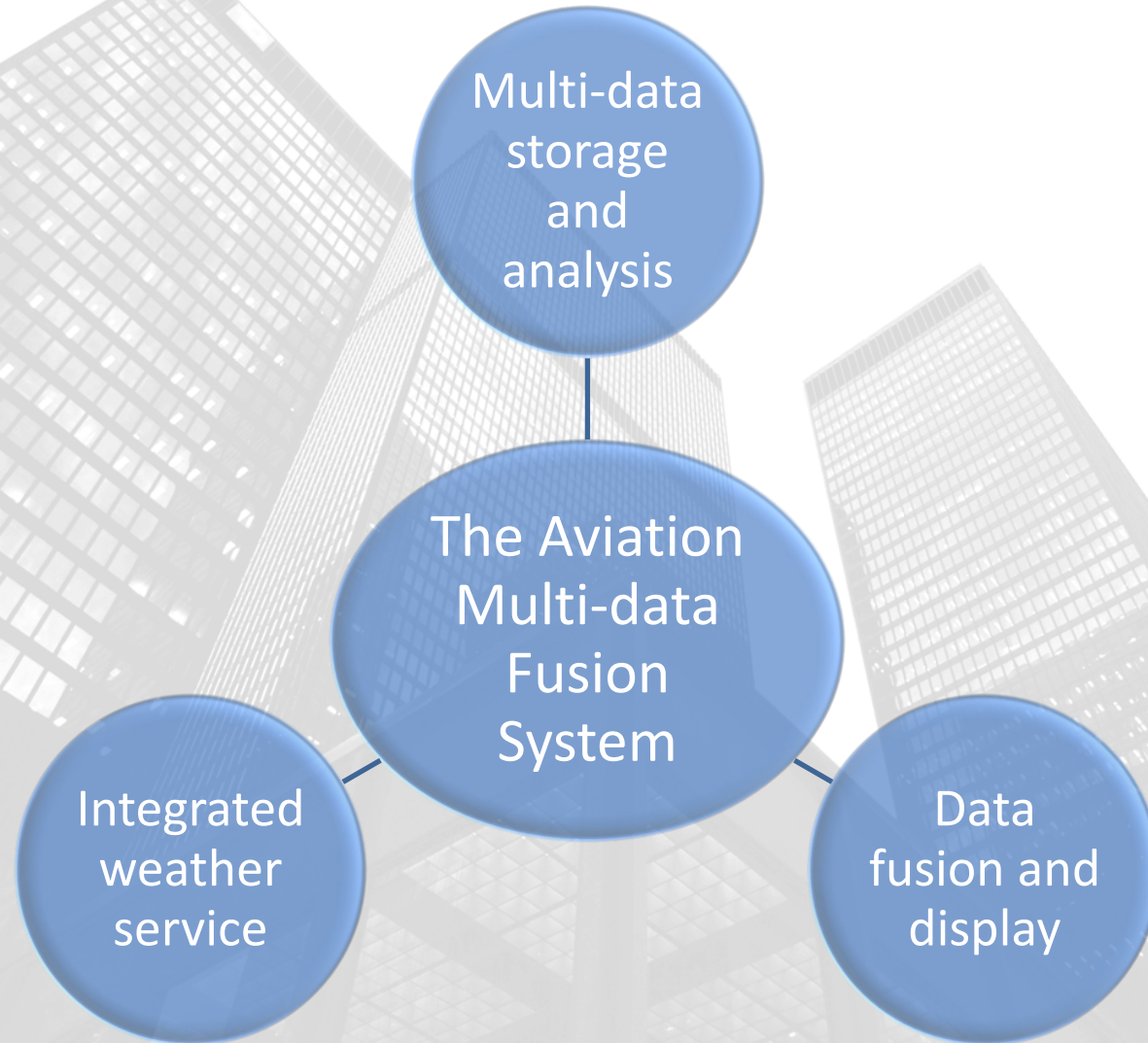
Introduction

- Large north-south span in the middle-south region of China
- Adverse weather

➤ In order to provide high-quality meteorological services, an integrated platform containing multi-meteorological data and flight operation information is needed.



Aviation Multi-data Fusion System



Aviation Multi-data Fusion System

✓ Multi-data storage and analysis, data fusion and display

➤ **Different geographic information layers can be shown on the system.**

- **Airports**
- **Air routes**
- **Key navigation points**
- **Air traffic control sectors**
- **Air traffic control area**

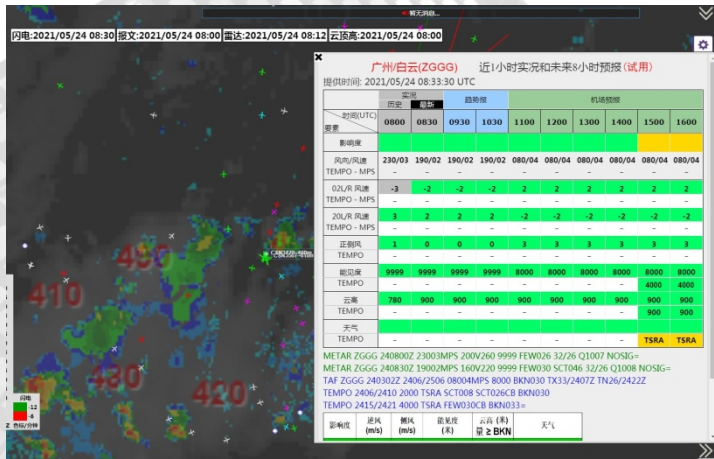


Configure a base map freely

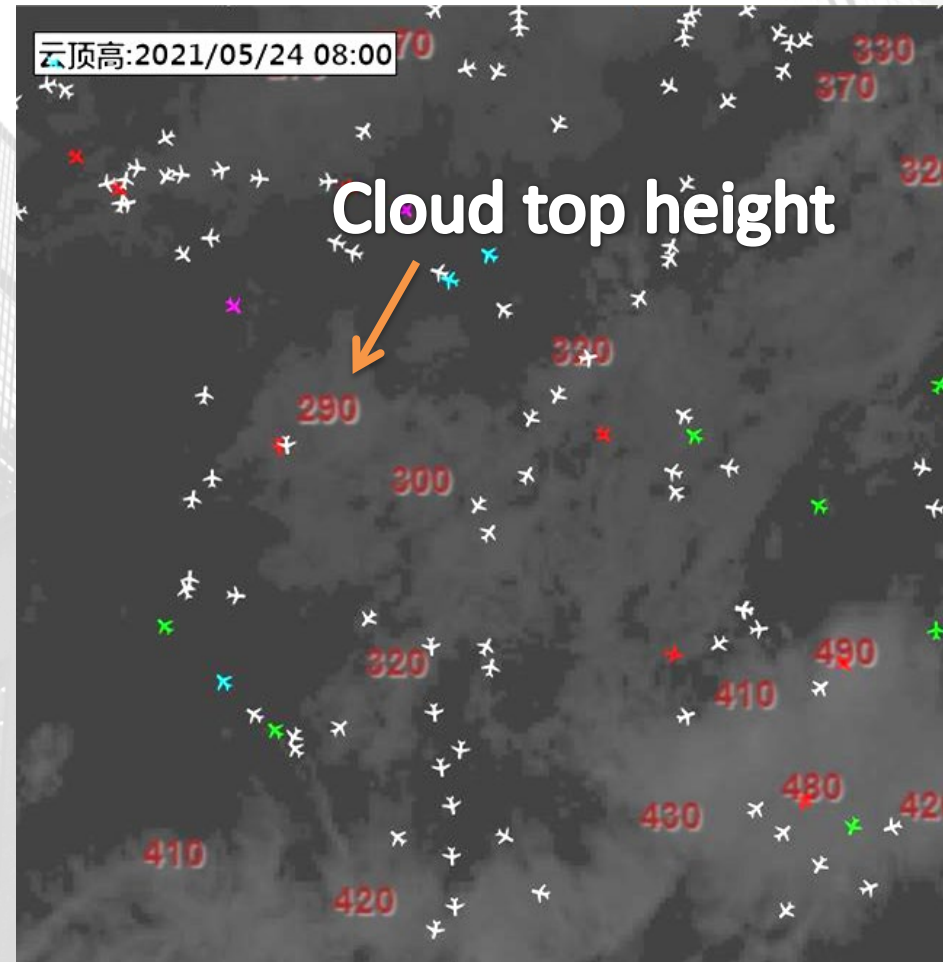
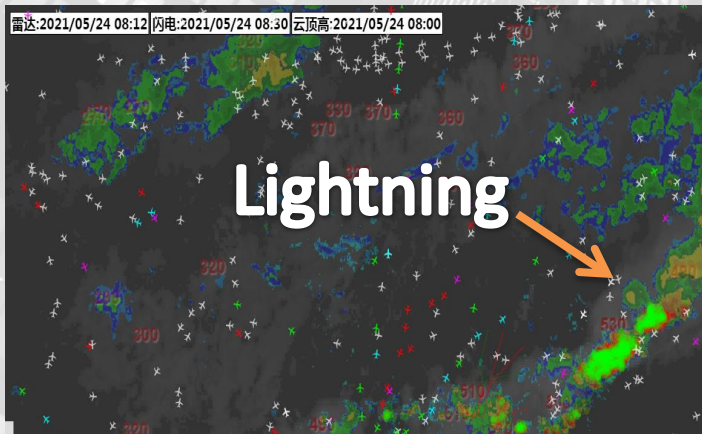
Aviation Multi-data Fusion System

✓ Multi-data storage and analysis, data fusion and display

METAR



Radar echo

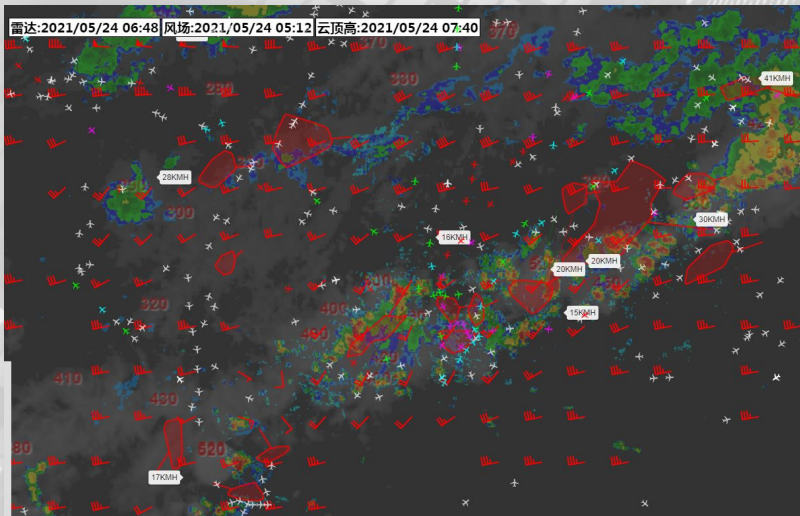


Aviation Multi-data Fusion System

✓ Integrated weather service

Weather forecast and analysis

- Convection area identification
- Movement speed/direction of convective clouds
- Convections nowcasting in the next 2 hours (derived from multi-scale track radar echo by correlation)
- Short-term prediction (the next 2-8 hours)



➤ The convections nowcasting is derived from multi-scale track radar echo by correlation (MTREC). Meanwhile, the short-term prediction (the next 2-8 hours) of the convective weather is based on NWP data.

Aviation Multi-data Fusion System

✓ Integrated weather service

- **Convection avoidance areas**

- **Impacts of convective weather in the next 6 hours in three color-coded categories**

- **Highlighted air traffic control sector**

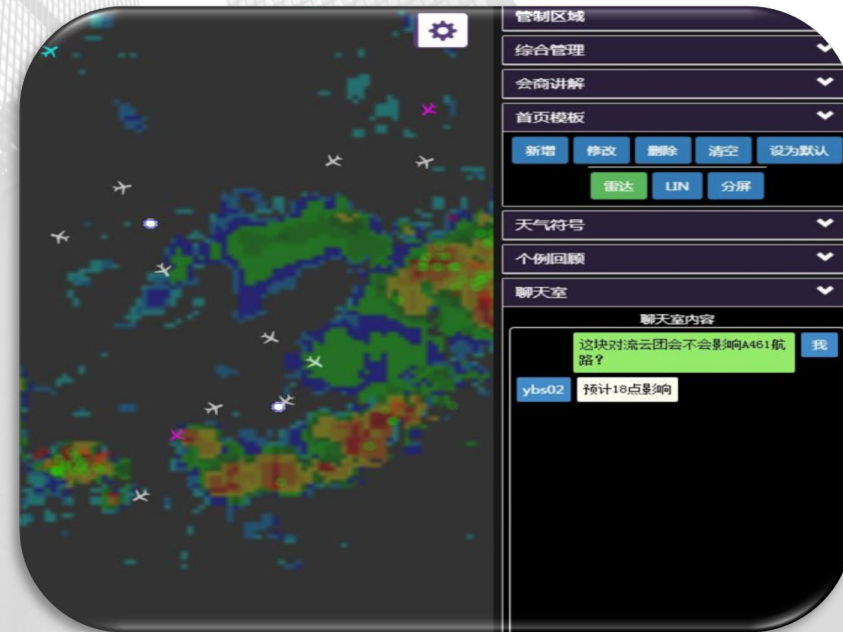
- ATM controllers can also highlight air traffic control (ATC) sectors which they focus on and analyze how the convective weather affects the flights in the sectors.

Aviation Multi-data Fusion System

✓ Integrated weather service

Progress in ATM and MET consultation

- Face to face consultation based on the system
- Online consultation through remote interaction and the chat room functions



Conclusion and discussion

- ❑ The Aviation Multi-data Fusion System shows meteorologists and ATM experts the convective weather visually and comprehensively. It also supports ATFM officers to make operational decisions and adjustments.
- ❑ The Aviation Multi-data Fusion System supports face-to-face or remote consultation between MET and ATM experts, and finally benefits common situational awareness establishment.

**Thank you
very much!**

