



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

*A United Nations Specialized Agency*

## **ATFM/SG/4**

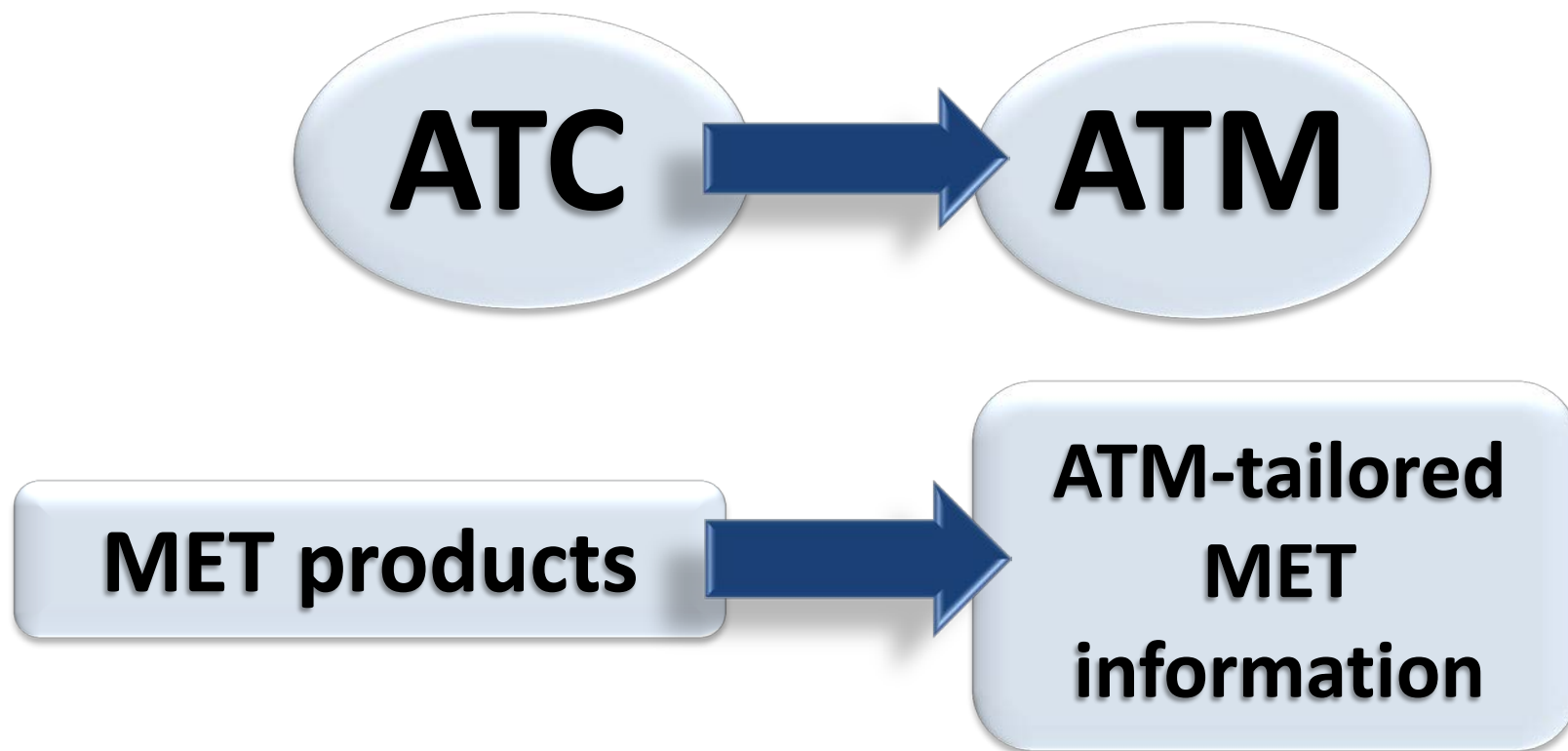
**Bangkok, Thailand, 1-5 December 2014**

**Agenda Item 5: Development of Regional  
ATFM Framework**

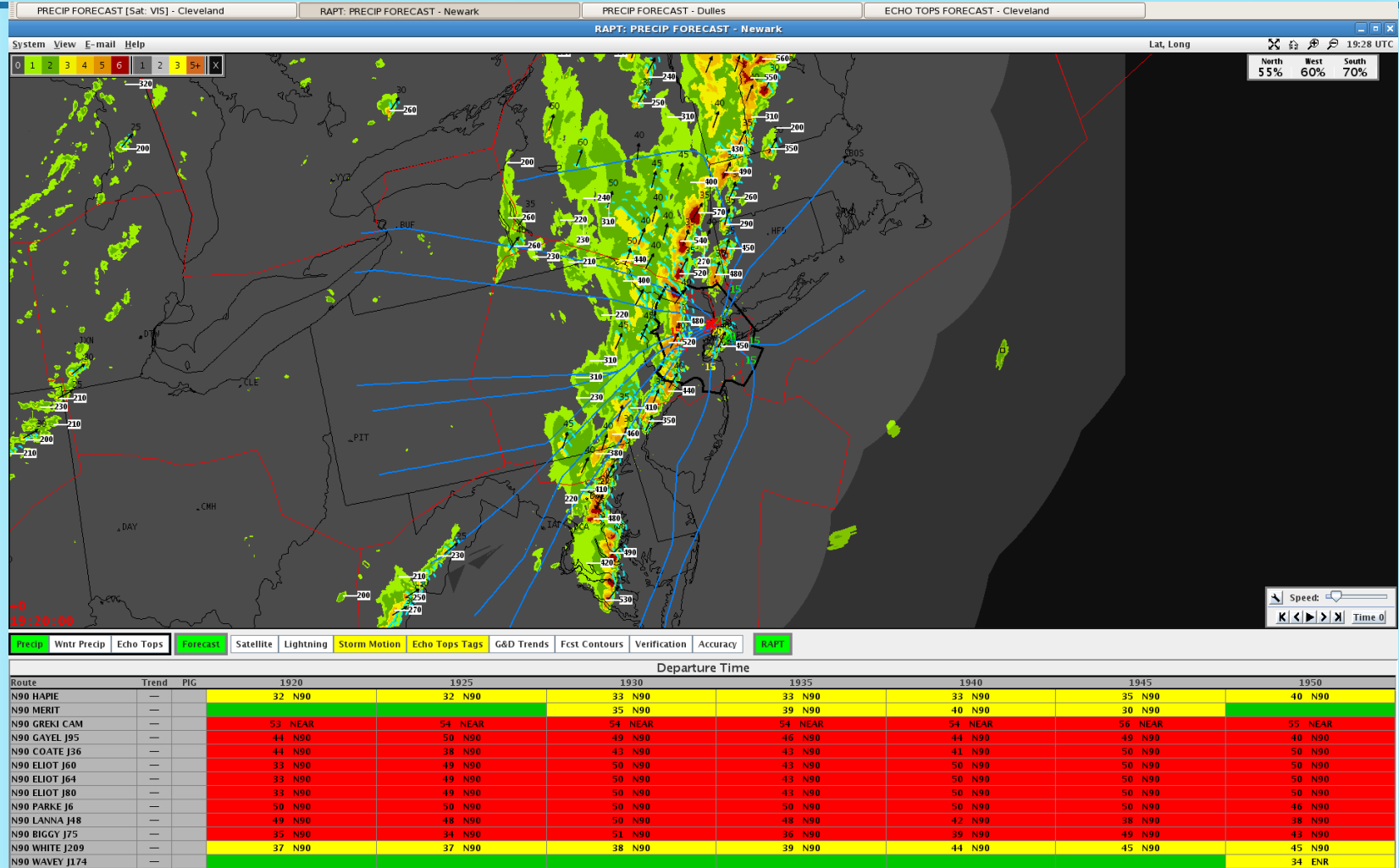
**IP/02**

**MET INFORMATION TO SUPPORT ATM AND  
MET SERVICES FOR THE TERMINAL AREA**

# INTRODUCTION



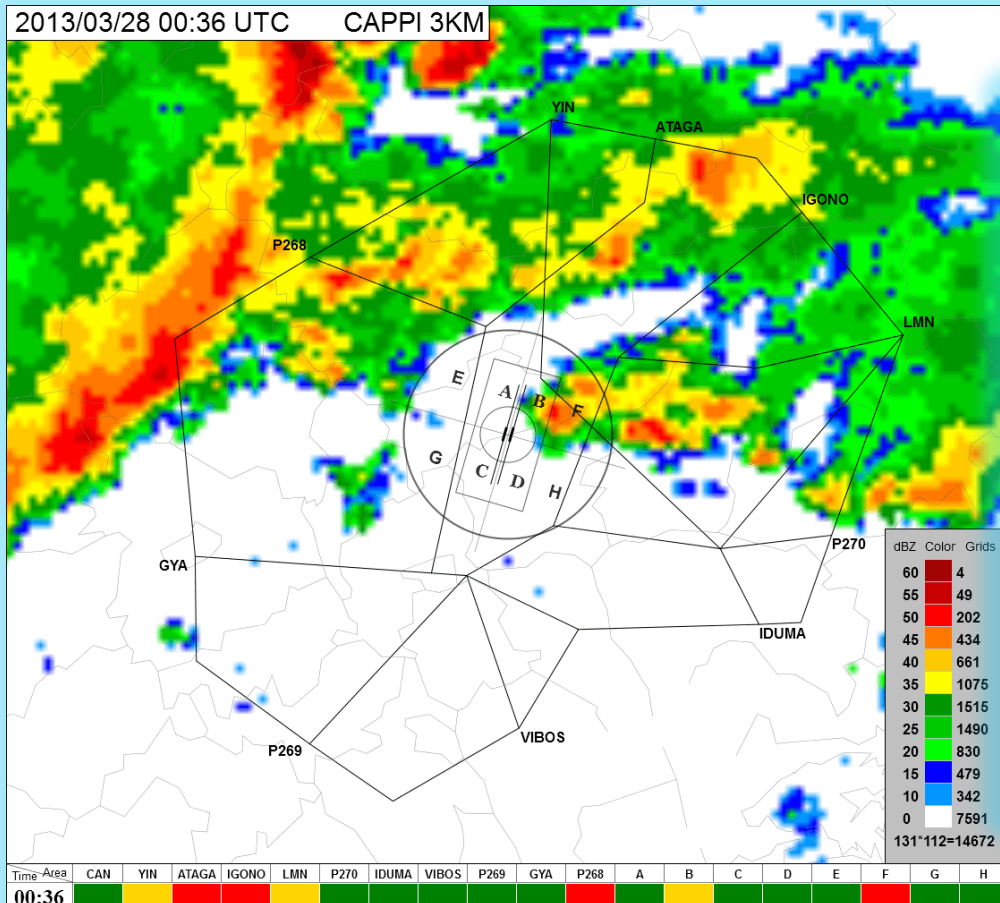
# Route Availability Planning Tool (RAPT) (United States)



From SP/08, WMO/ICAO MET/ATM Seminar, January 2011



# Convective Now-casting demo for Guangzhou Terminal Area (China)



2013/03/28 00:36 ~ 01:30 UTC CAPPI 3km Forecast based on 00:30Z

Valid Area	00:36	00:42	00:48	00:54	01:00	01:06	01:12	01:18	01:24	01:30
CAN	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Green
YIN	Yellow	Green	Green	Yellow	Red	Red	Red	Yellow	Red	Red
ATAGA	Red	Red	Red	Red	Yellow	Green	Green	Red	Red	Red
IGONO	Red	Red	Red	Red	Red	Red	Red	Red	Red	Yellow
LMN	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Green	Green
P270	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green
IDUMA	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
VIBOS	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
P269	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Red
GYA	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
P268	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
A	Green	Green	Green	Green	Green	Green	Yellow	Green	Red	Yellow
B	Yellow	Green	Green	Green	Green	Green	Green	Green	Red	Red
C	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
D	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
E	Green	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Red	Red
F	Red	Red	Yellow	Green	Green	Green	Yellow	Green	Red	Red
G	Green	Green	Green	Green	Yellow	Green	Green	Green	Green	Green
H	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Green

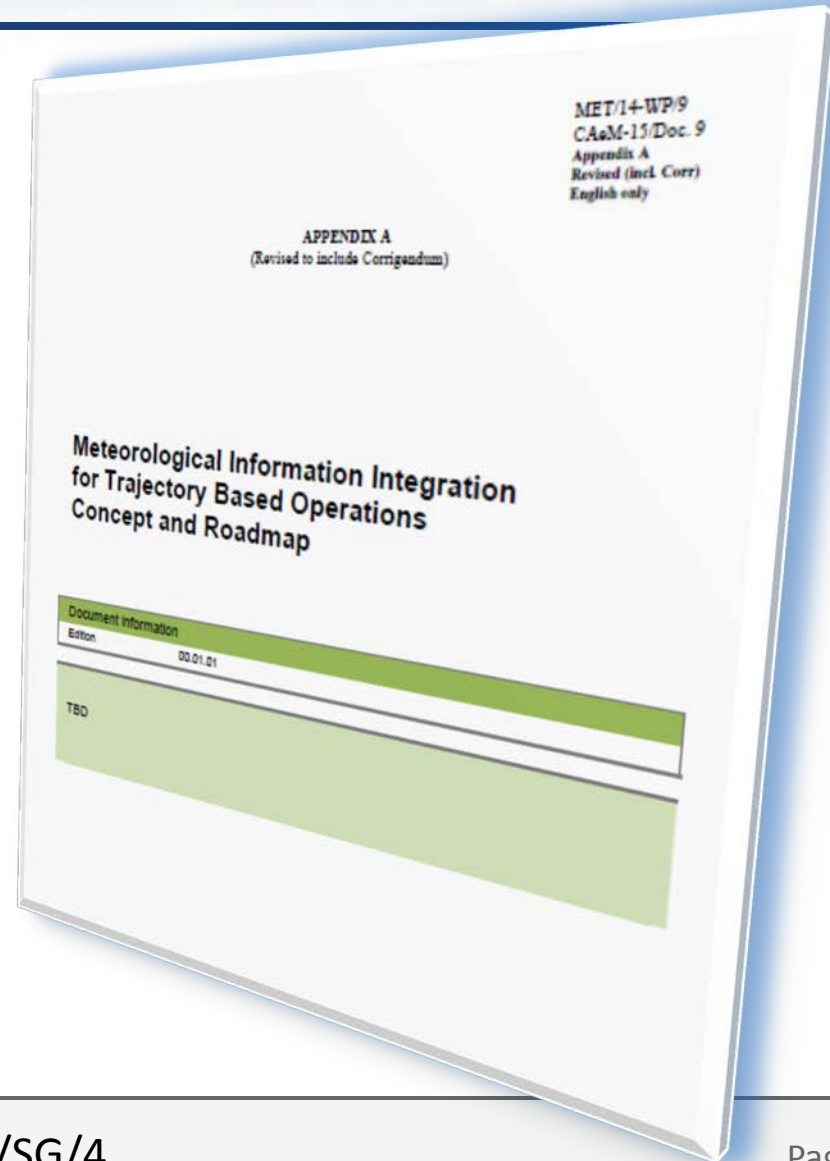
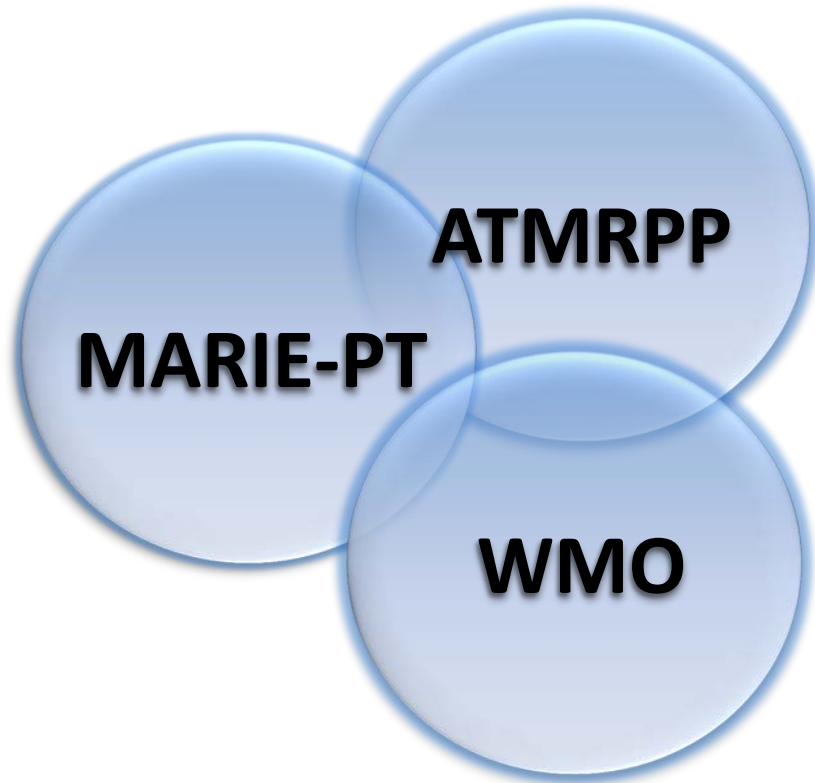
■ Red : dBZ >= 40 and coverage >= 15%, or dBZ >= 30 and coverage >= 30% in a radius of 10km area.  
■ Yellow : dBZ >= 40 and coverage >= 5%, or dBZ >= 30 and coverage >= 10%, or dBZ >= 25 and coverage >= 30% in a radius of 10km area.  
■ Green : other conditions.

Courtesy Meteorological Center, Central and Southern Regional ATM Bureau of CAAC

# Development of ICAO provisions



# Development of ICAO provisions



# Development of ICAO provisions



## **MET/14 Recommendation 3/1 — Aeronautical meteorological information to support trajectory-based operations**

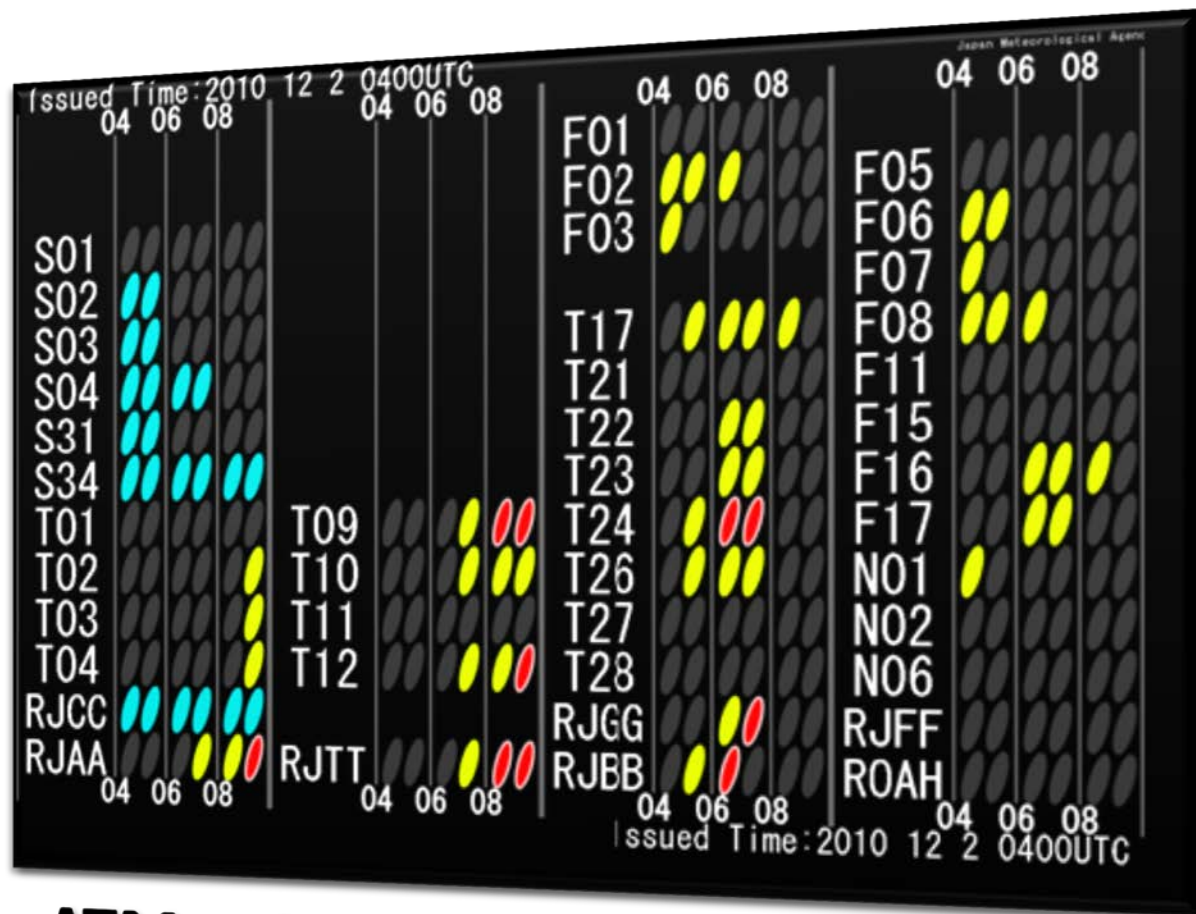
- Finalize the ConOps and Roadmap
- Establish further ATM requirements and MET capabilities

# Development of ICAO provisions



## MET impacts on air traffic flow:

- Red
- Yellow
- Blue
- White



ATMet Category Forecast (Japan)





## **MET/14 Recommendation 2/10 – Development of meteorological service for the terminal area**

- MET for the terminal area in ASBU Block 1
- ATM-tailored MET for the terminal area
- Guidance on verification
- Integrate MET service for the terminal area into SWIM

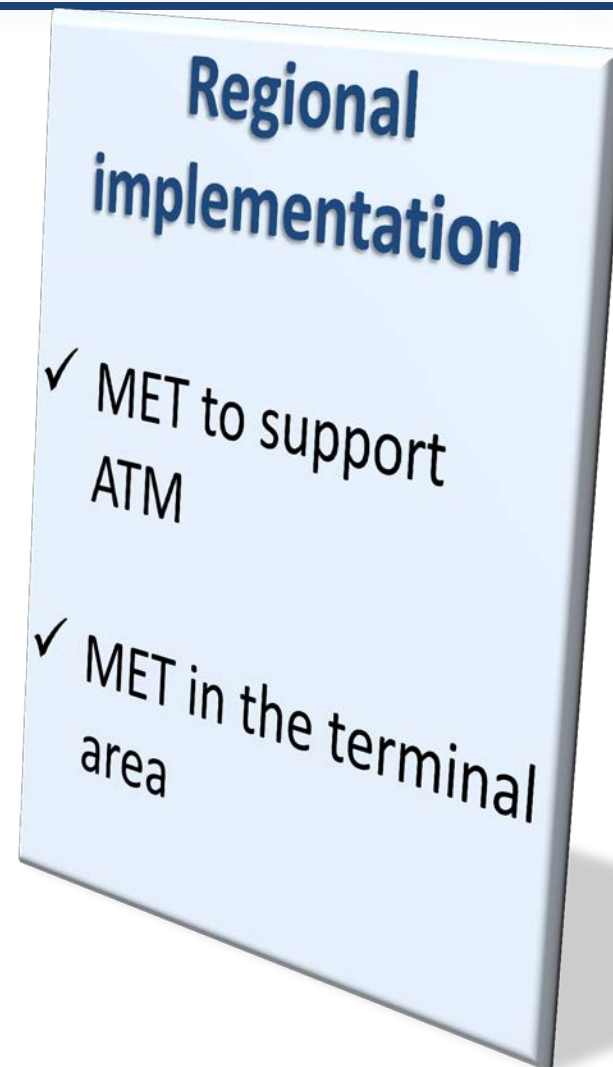
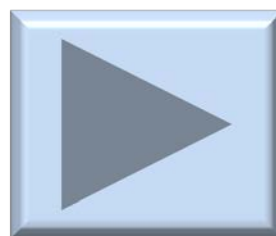
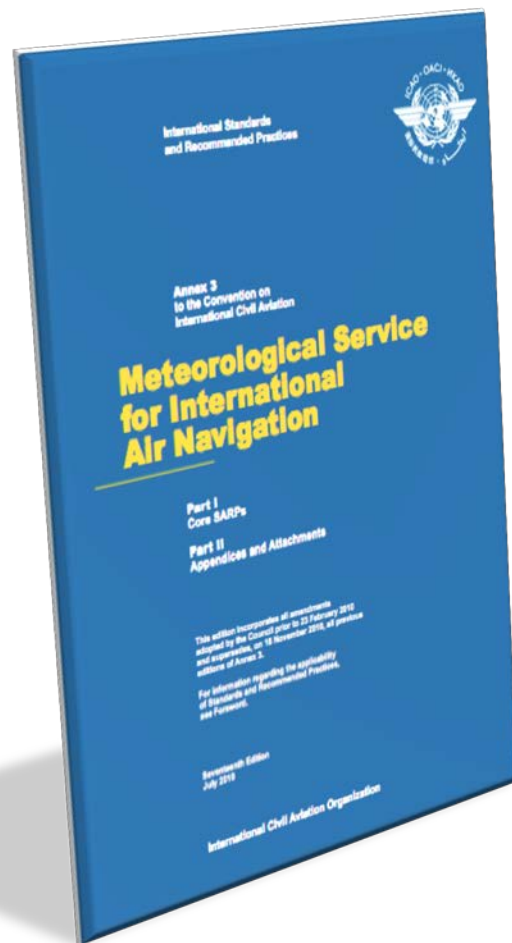
## Support from ANC and Council

- ✓ **ANC approved MET/14 Recommendations**
- ✓ **ANC approved establishment of METP**
- ✓ **Council supported follow-up**

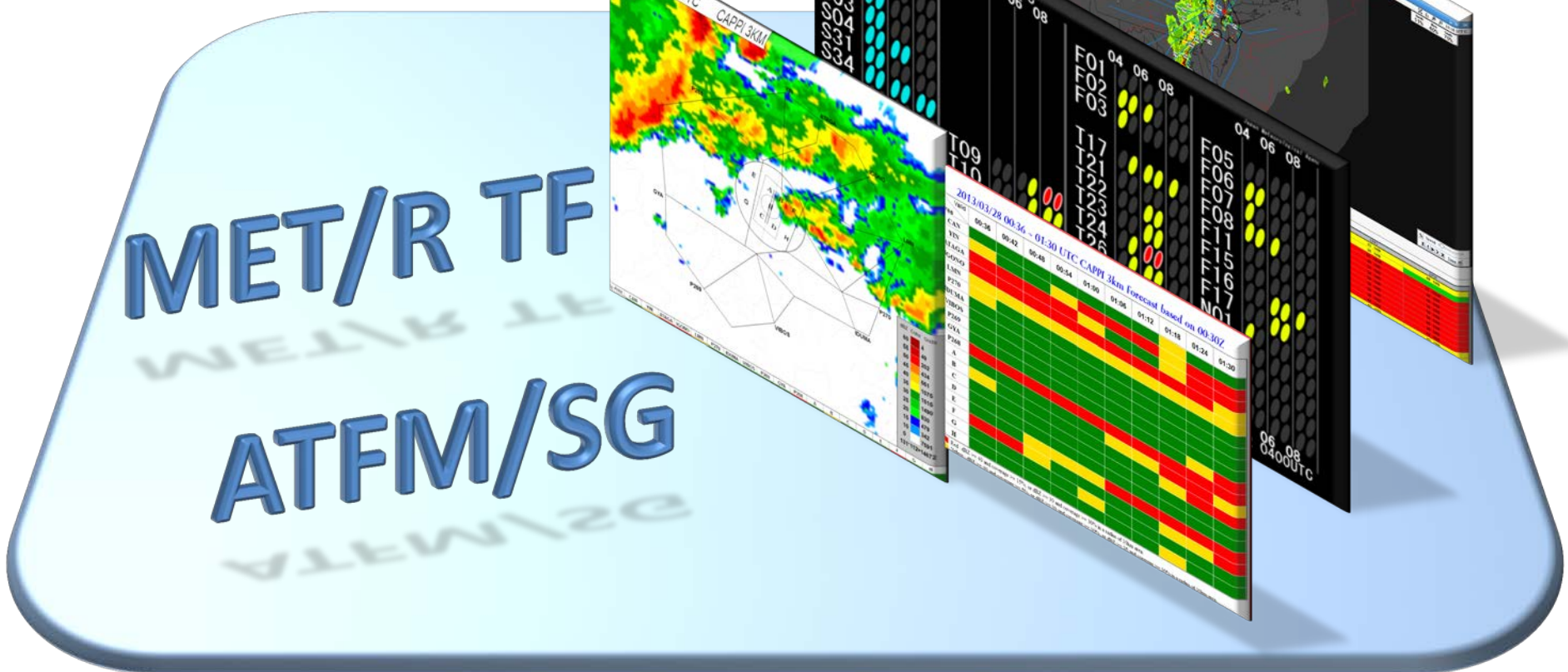
# Development of ICAO provisions



# Implementation



# Understanding requirements and capabilities





**THANK YOU**