



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

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Collaborative SIGMET Issuance
Workshop, English Session

Virtual, 25 November 2025



Collaboration of Aviation Weather Services (AWS) in issuance SIGMET Information

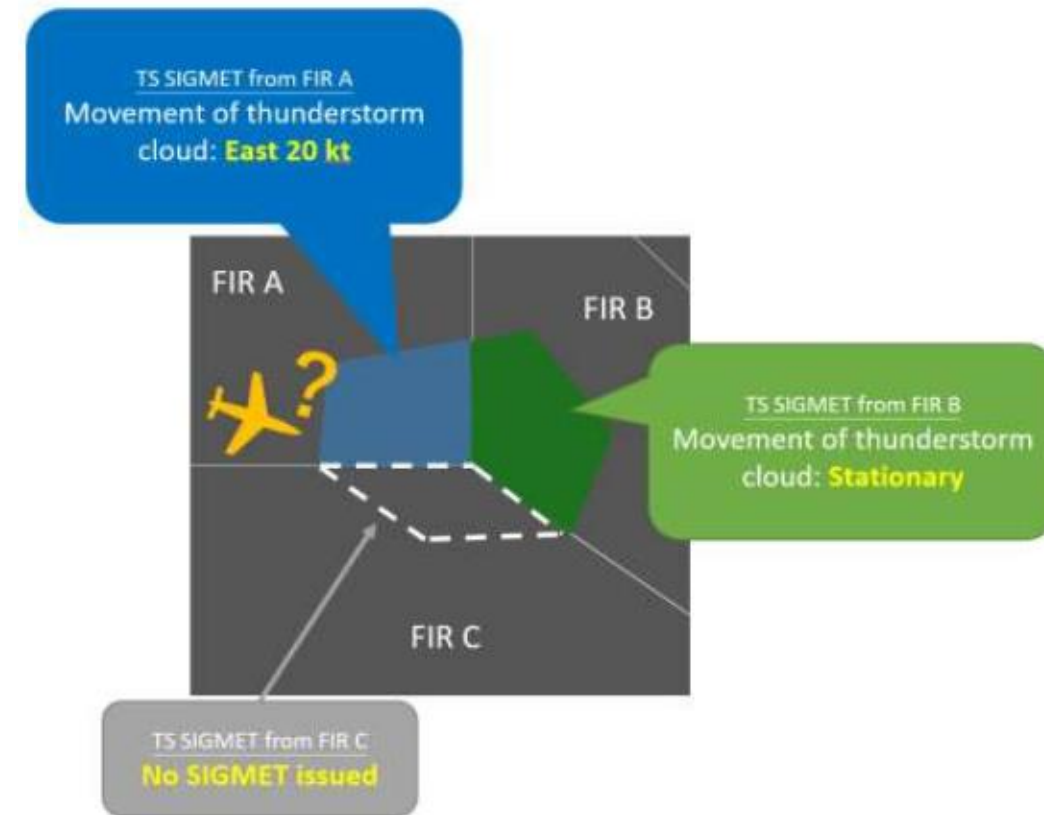
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Significant Weather handled by more than one MWO

Case Study : Airplane approaching Severe Weather

- a) An airplane is approaching a area affected by Significant Weather Phenomena :
- The SIGMET issued by forecasters from **FIR A** predicted the cloud to be moving to the east;
 - Forecasters from **FIR B** predicted it to be stationary; and
 - While Forecasters from **FIR C** didn't even issue any SIGMET.
- b) Under this situation, pilots/users find the SIGMET information ambiguous and confusing.



Where and when **problem** may happen?

- SIGMET worthy phenomena may cover **several FIRs/ACCs**.
- SIGMET service is **FIR-based Information, non phenomena-based information**.
- Information **independently** provided by MWOs.
- Credibility / Reliability **at stake** when one and the **same phenomenon** is interpreted **very differently by neighbouring MWOs**
- **Effective coordination of content**, timing, affected areas and levels , **is essential, similar to coordination in the field of Air Traffic Management (ATM)**.
- **Contradictory SIGMET information** might be provided to Users

**WHO is
impacted by
uncoordinated
SIGMET
Information?**

- **Planning layers :**
 - Pre-tactical; Tactical-Pre ops;
 - Tactical-During ops);
- **En-route aircraft;**
- **Departure aircraft;**
- **Arrival aircraft;**
- **etc.**

- **Airlines are the main users** of the SIGMET information. They contribute to the effectiveness of the SIGMET service through issuance **of special air-reports** reported by pilots to the ATS units.
- **Special air-reports** are among the **most valuable sources** of information for the MWOs in the preparation of SIGMET. The ATS units receiving special air-reports should forward them to their associated MWOs **without delay**.
- The effectiveness of the SIGMET service **depends strongly on the level of collaboration between the MWOs, ATS units, pilots, TCACs, VAACs and State volcano observatories**.
- The provision of **harmonized SIGMET information** may also relay on the **application of common requirements/measures** by the involved stakeholders.
- **Details on the responsibilities and coordination** for the provision of SIGMET Information in the AFI Region is provided in the **AFI Regional SIGMET Guide** available at : <https://www.icao.int/WACAF/Documents/edocs/AFI%20SIGMET%20Guide%20Edition%202021.pdf>



Responsibilities

- **Meteorological watch office (MWO)** responsibilities
- **Air traffic service (ATS)** unit responsibilities
- **Pilot** responsibilities

Meteorological watch office (MWO) responsibilities

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Responsibilities MWOs

MWOs States are responsible for **providing timely information** on the occurrence or expected occurrence of specified en-route weather phenomena affecting the safety of the flight operations in the MWO's area of responsibility.

SIGMET service, including details on the **designated MWO(s)**, is to be included in the **State's AIP** Appendix 1, **GEN 3.5.8**.

If a State is temporarily unable to meet its obligations for establishing MWO(s) and for provision of SIGMET, **arrangements have to be made for another State to assume this responsibility**.

Such delegation of responsibilities is **to be agreed by the meteorological authority of each State concerned** and should be notified by a **NOTAM**, within the State's AIP and in a **letter to the ICAO Regional Office** concerned.



Air traffic service (ATS) unit responsibilities

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Responsibilities Air traffic service (ATS)

Close coordination should be established between the MWO and the corresponding ATS unit (ACC or FIC) and **arrangements** should be in place to ensure:

- a) **receipt without delay and display** at the relevant ATS units of SIGMET issued by the associated MWO;
- b) **receipt and display** at the ATS unit of SIGMETs issued by MWOs responsible for the adjacent FIRs/ACCs; and
- c) **transmission without delay** by the ATS unit of **special air-reports** received through voice communication to the associated MWOs.



Pilot responsibilities

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Responsibilities Pilots

- **Timely issuance** of SIGMET information is largely dependent on the **prompt receipt by MWOs of special air-reports**.
- It is essential therefore, that **pilots prepare and transmit such reports** to the ATS units **whenever any of the specified en-route meteorological conditions in A3 Chap. 5:£5.5 are encountered or observed**.





Coordination

A **formal coordination**, established through letters of agreement, should be agreed upon between the MWOs and all parties involved in the preparation and provision a SIGMET information.

- Coordination between the **MWO** and its corresponding **AMOs** within the State
- Coordination between the **MWO** and its neighboring **MWOs**
- Coordination between **MWOs** and **ATS** units
- Coordination between **MWOs**, **VAACs**, **TCACs** and **Volcano observatory States**

*Note.— Refer to the Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services (Doc 9377) and the Handbook of the IAWV (Doc 9766) Appendix A for Guidance on the subject of **coordination** between ATS, area control centres (ACCs)/flight information centres (FICs), meteorological watch offices (MWOs) and vulcanological observatories.*

Regional, subregional, and States cooperation and collaboration can help improve the provision of SIGMET information.

- ICAO METP collaborates to define **operational requirements for aeronautical MET services**, supporting a globally interoperable air traffic management system, and **works with WMO** to identify scientifically and technologically sound solutions to meet these requirements efficiently.
- **APIRG IIM concerned MET Project (s)** assisting States in the delivery of SIGMET information in a **changing air space structure**.
- **Participation of MWOs States in the AFI Annual SIGMET Tests** and implementation of resulting recommendations for improvement;
- ...

Common requirements /Measures ^{1/2}

The **joint development of Quality Management Systems** for aeronautical meteorological services in accordance with ISO 9001 standards can help improve SIGMET information.

- **Operational Processes and Procedures** for the provision of SIGMET information
- **Interactions between processes** well managed
- Establishment of **functional agreements between neighboring MWOs** for effective coordination
- **Quality assurance** of SIGMETs delivery.



Common requirements /Measures ^{2/2}

- **Coordination at different Levels** for the provision of SIGMET services;
- **Cooperation in development, Training and capacity building**, including **staff rotation**, use of **up-to-date systems**;
- **Alignment** of the system of the provision of SIGMET Information with **Changes** in Air Traffic Management **to adapt to changed structures**.





To provide harmonized SIGMET information

The following (but to not limited to) should be observed:

- Establishment of **regulatory framework**;
- Establishment of the **operational framework**;
- Set up of **Responsibilities**;
- Close **formal and effective coordination** between MWOs and all stakeholders;
- **Assurance quality** of SIGMET information
- **Training and qualification** of aeronautical meteorological forecasters;
- **Harmonized/interoperable** systems.



Thank You!