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INTERNATIONAL CIVIL AVIATION ORGANIZATION

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**WACAF workshop on the
provision of information on
volcanic eruptions and ash
clouds**

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WACAF workshop on the provision of information on volcanic eruptions and ash clouds

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Strategies for Real-Time Dissemination of volcanic ash information

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Serge TCHANDA

Regional Officer ATM/SAR WACAF

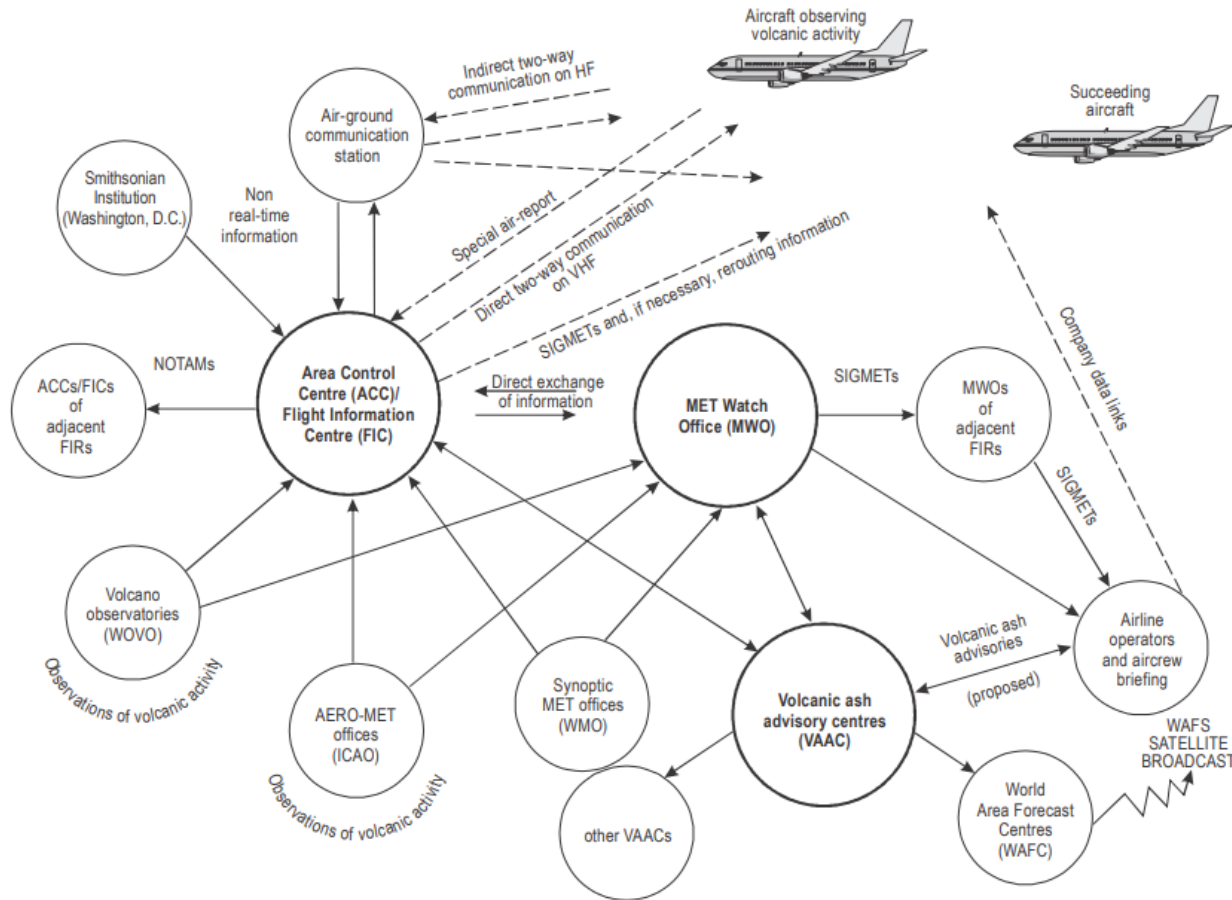
Summary

- Requirements for real-time dissemination
- Challenges
- Strategies for improvement of volcanic ash information dissemination

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Requirements for real-time dissemination



Requirement for cooperation and collaboration:

A3, 2.2.1 –

“Close liaison shall be maintained between those concerned with the supply and those concerned with the use of meteorological information on matters which affect the provision of meteorological service for international air navigation”

Requirements for real-time dissemination

Requirement for clarity:

A3, 2.2.9 –

“The meteorological information supplied to the users ... shall be consistent with Human Factors principles and shall be in forms which require a minimum of interpretation by these users...”

Requirement for timely dissemination

A3, 4.8-

“...The occurrence of pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud should be reported **without delay** to the associated ATS unit, AISunit and MWO...”

Requirements for real-time dissemination

Requirement for currency:

A3, 10.1.1 –

“...The AMO or MWO shall, after coordination with the ATS unit, supply, or arrange for the supply of, **up-to-date** meteorological information to the unit as necessary for the conduct of its functions...”

Requirement for timely dissemination

A3, 4.8-11.1.1, 11.1.2, 11.1.3, 11.1.8

“...Suitable telecommunications facilities shall be made available to permit AMO, MWO, WAFC, VAAC to supply the required meteorological information...”

Challenges in volcanic ash information dissemination in AFI

- Unharmonized regulations
- Low interoperability and connectivity of communication system
- System reliability and resilience
- Inadequacy between timely information demand and supplier capability
- Insufficient capacity building for ATC, Pilot, AIS and MET Personnel
- Irregular and/or uncoordinated testing of national volcanic ash contingency plans

Strategies for improvement of volcanic ash information dissemination

➤ Implementation of Integrated Monitoring and Detection Systems

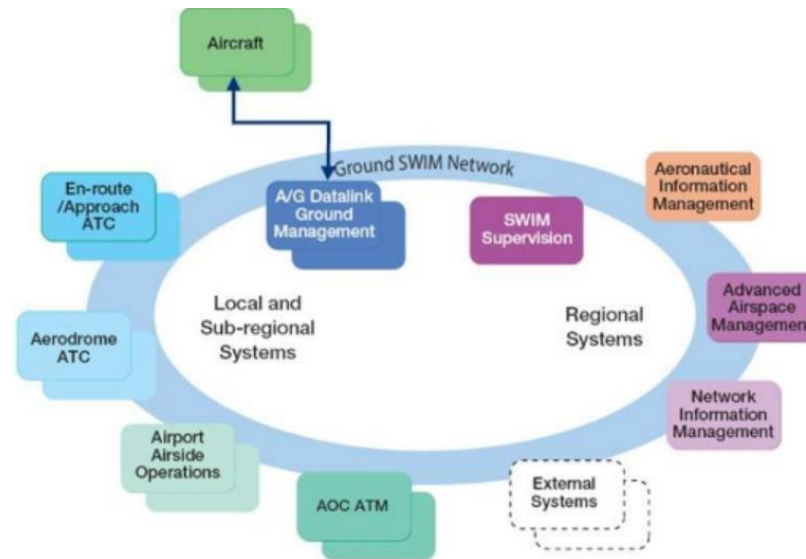
- Use of satellite imagery
- Leverage the operational benefits of UAS such as RPAS for remote monitoring of volcanic activities
- Ground-based observations and remote sensing
- Use of volcanic ash transport and dispersion models



Strategies for improvement of volcanic ash information dissemination

➤ Implementation of reliable means for dissemination of Volcanic Ash Information

- Aeronautical Fixed Telecommunication Network (AFTN)
- ICAO Meteorological Information Exchange Model (IWXXM)
- SADIS API /WIFS API
- NOTAMs and SNOWTAMs when relevant
- Air-Ground data link
- Progressive move to SWIM



Strategies for improvement of volcanic ash information dissemination

➤ Enhance regulatory framework and procedures

- Mechanism for regular update of the regulations related to the provision of volcanic ash information.
- Development of work procedures and instructions aligned with national regulations and global guidance
- Periodic updates to Standard Operational Procedures and technologies related to the volcanic ash provision.

Strategies for improvement of volcanic ash information dissemination

➤ Improve collaboration

- Roles and coordination between key stakeholders, including:
 - Meteorological authorities
 - Air Navigation Service Providers (ANSPs)
 - Airlines and dispatch centers
 - Civil aviation authorities
 - Volcanological agencies
 - Search and Rescue Service providers (RCC/RSC)
- Mechanisms in place for regular updates and briefings during eruptions.

Strategies for improvement of volcanic ash information dissemination

➤ Enhance capacity building

- Training need assessment in the field of provision of volcanic ash provision.
- Training programmes/plans for involved stakeholders.
- Workshops/seminars log on volcanic ash for the region.
- Conduct of regular volcanic ash exercise.

Strategies for improvement of volcanic ash information dissemination

➤ Timely Issuance of Advisories

- Efficient operation of Volcanic Ash Advisory Centres (VAACs)
- Adherence to ICAO Annex 3 standards for issuing Volcanic Ash Advisories (VAA).
- Effective Implementation of the Volcanic Ash SIGMET Tests



Thank you!
Merci beaucoup!