

Atelier cendres volcaniques

Yaoundé – Cameroun

Juin 2025

Scenario Simulation for Volcanic Ash Events

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Plan

- Exercises and performant assessments
- Objectives
- Concepts
- Planning and reporting
- ICAO reference material

Exercises and performant assessments

- They should be held at least every three years
 - where the frequency of real eruptions is low
 - and additionally as soon as practicable when significant changes to the procedures have been implemented.
- Volcanic ash exercises should be designed to test
 - volcanic activity alerting,
 - aeronautical information service (AIS)
 - and meteorological (MET) message routing,
 - volcanic ash information,
 - air traffic control procedures,
 - air traffic flow
 - capacity management and aircraft operator response and the collaborative decision making (CDM).
- Exercises can only simulate a real event, while operation of the aviation system must continue normally and be unaffected by the exercise.

A complete, system-wide exercise for volcanic ash contamination is an extremely complex undertaking since such an event involves a great number and variety of stakeholders.

Objectives

- The exercises should be designed to:
 - practice the conduct of volcanic activity response in accordance with the regional reference documents;
 - verify existing information, AIS and MET message routing via AFTN addresses, relevant e-mail addresses, telephone and fax numbers, and internet addresses (URLs);
 - maintain appropriate information and message routing between all involved agencies and organizations;
 - provide volcanic activity response training for key personnel involved;
 - allow regulators to assess the preparedness and operational response in terms of planning, process and procedures of operators;
 - provide, when appropriate, recommendations for amendment of the reference documents, in accordance with the lessons learned and conclusions contained in the final exercise report.
- Exercises may also be designed to test suggested new procedures on a limited scale before regional/global implementation.
- Exercise and system performance assessments should be aimed at a critical review of existing provisions and their further improvement.

Concepts

- Each exercise should involve a simulated volcanic contamination.
Exercises may utilize real-time meteorological conditions, archived data or a scenario
- Each exercise may have different objectives. For example:
 - AFTN, e-mail addresses, websites, message routing and voice communications;
 - alerting and observation of ash (such as use of VONA and VAR);
 - VAAC response (such as volcanic ash information);
 - ATS response (including air traffic control and AIS for NOTAM issuance);
 - air traffic management (ATM) response;
 - aircraft operator response (including safety risk assessment);
 - meteorological watch office response (SIGMET);
 - suitability of information, its frequency, format and content.

Planning and reporting

Each ICAO region should establish an appropriate structure (such as focal point or steering group) for the conducting of regional volcanic ash exercises and system performance assessments.

- For each exercise, an exercise leader should be appointed
- a planning meeting held approximately three months before the exercise is due to take place.
- An exercise directive should be published prior to the exercise which clearly describes :
 - the exercise scenario,
 - participating agencies
 - any special instructions.

After the exercise, initial exercise reports should be prepared by all participating agencies.

A debrief meeting should be held soon after the exercise to discuss the exercise reports.

The exercise leader should then produce a consolidated final exercise report for consideration by the relevant ICAO group.

ICAO reference material

Annex 3 – Meteorological Service for International Air Navigation

Annex 11 – Air Traffic Services

Annex 15 – Aeronautical Information Services

Procedures for Air Navigation Services – Meteorology (PANS-MET, Doc 10157)

Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444)

Manual on Volcanic Ash, Radioactive material and Toxic Chemical Clouds (Doc 9691)

Global Air Navigation Plan (Doc 9750)

Global ATM Operational Concept (Doc 9854)

Flight Safety and Volcanic Ash (Doc 9974)

THANK YOU FOR YOUR ATTENTION