



ICAO

International Civil Aviation Organization

**Thirty-Third Meeting of the Asia/Pacific Air Navigation
Planning and Implementation Regional Group
(APANPIRG/33)**

Bali, Indonesia, Hybrid Meeting, 22 to 24 November 2022

**Agenda Item 3: Performance Framework for Regional Air Navigation Planning and
Implementation**

3.5 MET

THE ICAO ASIA/PACIFIC VOLCANIC ASH EXERCISE 22/01

(Presented by Indonesia)

SUMMARY

This paper presents the general summary of the simulation of volcanic ash information handling, conducted through the Asia/Pacific Volcanic Ash Exercise (APAC VOLCEX 22/01).

Strategic Objectives:

- A: **Safety** – Enhance international civil aviation safety in the event of volcanic ash
- B: **Air Navigation Capacity and Efficiency** — Increase the capacity and improve the efficiency of the international aviation system in the event of volcanic ash

1. INTRODUCTION

1.1 The volcanic ash exercise is conducted in accordance with the ICAO Doc 9766 – Handbook on the International Airways Volcano Watch (IAVW), “Volcanic ash exercise should be conducted by ICAO on a regional basis in order to practice and develop inter-agency response to volcanic activity, in order to maintain safety, regularity and efficiency of aviation in the event of a volcanic eruption”.

1.2 Indonesia, through the Indonesian Agency for Meteorology, Climatology, and Geophysics (well known as BMKG), was appointed to be the exercise leader of the first volcanic ash exercise hosted in 2022, namely APAC VOLCEX 22/01.

2. DISCUSSION

Brief account of APAC VOLCEX 22/01

2.1 The exercise conducted over a period of approximately nine (9) hours from 01.50 UTC to 11.00 UTC on 27 October 2022.

2.2 APAC VOLCEX 22/01 simulated the eruption of Sorikmarapi volcano (referring to Smithsonian database), located in North Sumatera Province and within Jakarta FIR. The simulated ash plume was simulated to reach FL400 moving to West – Northwest and entered Colombo FIR. Volcanic ash was simulated to impact the domestic and international air traffic service (ATS) routes, and affect airports in in North Sumatera, i.e., Silangit International Airport, Kualanamu International Airport, Dr. Ferdinand Lumban Tobing Airport - Pinangsori (Sibolga), Aek Godang Airport - Padang Sidempuan, and Binaka Airport - Gunung Sitoli (closure).

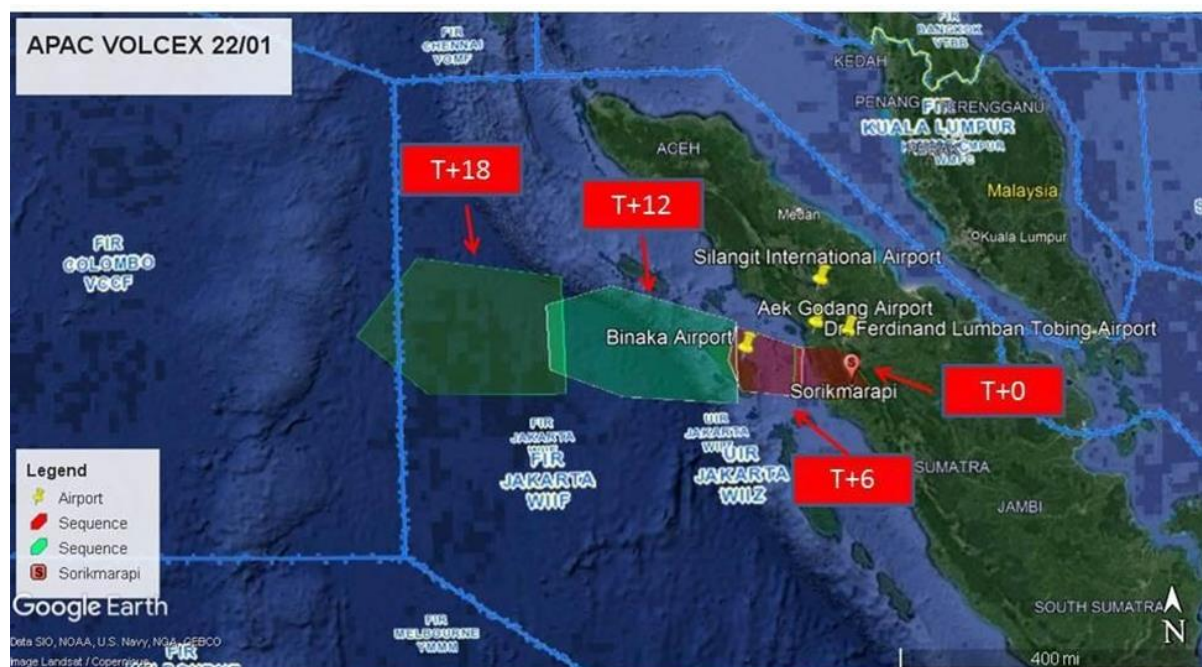


Figure 1. Illustration of volcanic ash dispersion simulated in APAC VOLCEX 22/01

2.3 The national agencies participating in the APAC VOLCEX 22/01 consist of:

- a) Directorate of Air Navigation (DAN) – Ministry of Transportation Republic of Indonesia;
- b) Centre for Volcanology and Geological Hazard Mitigation (CVGHM);
- c) Directorate of Airport – Ministry of Transportation Republic of Indonesia;
- d) Airport Authority (KOBU) I Jakarta, KOBU II Medan, and KOBU VI Padang;
- e) Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG): Soekarno-Hatta Cengkareng Meteorological Station (MWO Jakarta), Kualanamu Meteorological Station, North Tapanuli Silangit Meteorological Station, Aek Godang Meteorological Station, Binaka Meteorological Station - Gunung Sitoli, and Ferdinand Lumban Tobing - Sibolga Meteorological Station;
- f) Airnav Indonesia: ACC Jakarta, ATFM Unit Jakarta, APP Medan, TWR Medan, NOTAM Office, AIS Regional Office, AirNav Silangit, AirNav Sibolga, Branch Office Gunung Sitoli;
- g) Angkasa Pura II: AP II Silangit;
- h) Angkasa Pura Aviation Medan;
- i) Airlines: Garuda Indonesia, Air Asia, and Lion Air.

- 2.4 International agencies involved in the APAC VOLCEX 22/01 activities consist of:
- a) Bureau of Meteorology (BoM) Australia: VAAC Darwin;
 - b) Department of Meteorology Sri Lanka: MWO Colombo;
 - c) Civil Aviation Authority of Sri Lanka (CAASL): ACC Sri Lanka, NOF Sri Lanka, AIS Unit, ATFM Unit;
 - d) SIGMET coordination tools provider: Hong Kong Observatory (HKO);
 - e) Airlines: Sri Lanka Airlines;
 - f) Observing agencies: Japan Meteorology Agency, Fiji Meteorological Service, Indian Meteorological Department, and Sri Lankan airlines.

Summary of actions achieved in APAC VOLCEX 18/02:

2.5 APAC VOLCEX 22/01 implemented several actions as required by the ICAO and national regulations, including:

- a) Demonstration of volcanic ash information flow in accordance with ICAO Doc 9766 – Handbook on the International Airways Volcano Watch (IAVW), i.e., via AFTN and e-mail.
- b) Demonstration of cross-boundary international coordination to provide and respond to volcanic ash information between Jakarta FIR and Colombo FIR. This consists of ATS coordination and SIGMET coordination.
- c) Simulation of “real-time” operational responses to a volcanic event.
- d) The use of user-friendly communication and information exchange system in volcanic ash handling, named I-WISH (Indonesia Web-based aeronautical Information Services Handling), developed by the Directorate of Air Navigation of Indonesia, to support the CDM process and it has been regulated in the DGCA Decree number 153 year 2019.
- e) Demonstration of ATM response and CDM Process which has been regulated in the national scale under Minister Decree number 95 year 2018 regarding Civil Aviation Safety Regulation Part 174 Aeronautical Meteorological Information Services.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information contained in this paper; and
- b) Discuss any relevant matters as appropriate.

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